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Address.

THE DOCTOR IN POLITICS.*

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CINCINNATI.

An invited speaker, when contemplating the demands of propriety with which he is about to be confronted, experiences the conflicting emotions of certainty and uncertainty. He is certain, for instance, as I am certain this evening, that he is the recipient of a conspicuous honor in being asked to engage the attention of his colleagues in a learned profession; and he is equally certain, as I am this evening, that he owes his acknowledgments of profound gratitude for the distinction that has thus been conferred on him. But unfortunately, at this point, and in the absence of an assigned topic, his feeling of equanimity deserts him, for if there is one thing more than another that he does not know, it is which subject, within the range of his limited capacities, will appeal with greatest interest and effectiveness to an audience that is familiar with all subjects. I have gone through the reflections enforced by this predicament, and in concluding to discuss the relations of doctors to the general life with which they are surrounded and of which they are a part—or, more specifically, the doctor in politics—I must offer an explanation which may at the same time serve as an apology. The explanation is to be found in the fact that I, like other objects in nature, when left to my own inclination, generally follow in the direction of least resistance, which declaration divested of its enigmatical features, means that by virtue of my accidental connection with the great work of organization in our profession, and by virtue of my present position as chairman of our National Committee on Medical Legislation, I have been brought face to face with this very theme. At the same time I feel that in discussing it here to-night I am simply carrying coals to Newcastle; for, if I were to say that I felt otherwise I would intimate that, here in Kansas City, there are neither doctors nor politics, which, I hasten to assure you, are two suspicions to which you have never been subjected.

"DOCTOR" AND "POLITICS."

Now, it will be assumed, naturally and correctly enough, that, on this occasion and in this presence, I use the word "doctor" in its popular significance as the synonym of one who, whether physician or surgeon, is qualified by education and law to practice the healing art. At the same time, I do not wish to lose sight of the fact, which I really wish to emphasize, that a doctor is not only one skilled in a profession, but should mean one who, in addition, is a learned man, and one who, moreover, has both the capacity and the inclination to teach others.

If, however, the word "doctor" demands definition here in the presence of doctors, how much more does the word "politics" need to be defined in the presence of men, every one of whom, as occasion offers, doubtless protests that he knows nothing about politics and that he takes no part in public affairs? First, then, let me say that I do not employ the word in its restrictive sense to imply activities calculated to influence and control the electorate by unworthy means to equally unworthy ends. The meaning that I attach to the word is, rather, the antithesis of this, and embraces a knowledge and practice of that science which, beginning with the intelligent exercise of the rights of citizenship, comprehends nothing less than the regulation of the nation, by lawful means, for the conservation of its safety, peace and prosperity. Within the purview of this science some such subordinate themes as the electoral franchise, the organization and management of parties, the natural laws of politics, abstract politics, the practical management of the affairs of state, political economy, police or municipal regulation, positive or constitutional law, the practical law of nations and even the science and art of diplomacy.

CIVIC RELATIONSHIPS OF THE DOCTOR.

What, then, you will inquire, in the light of these definitions, are we to recognize as the relationship, natural or otherwise, between doctors and politics? That the two are related, in a more or less fundamental way, becomes at least vaguely apparent when we reflect on the general unity of things; when we realize that nothing exists that is not related to something else, and this, in turn, to still something else, and so on until all things—arts, science, life itself—are bound together in an indissoluble whole. The constitution of the social fabric, of which the doctor is an integral element, furnishes a special application of this generalization. But it is not necessary to go into a critical analysis of the cosmos to discern the more intimate character of this relationship. We may get at the subject rather more directly by observing, first, that the relationships of the doctor, in point of knowledge, are as the relationships of his science. Thus, for example, his knowledge of human structure and of human function gives him a certain conception of structure and function, and the correlation of the two, as manifested in every phase of organic life; while his study of vital phenomena as modified by conditions, his accumulation, comparison and classification of facts, enable him to arrive at a conception of fundamental law, of natural law, of which all constitutional or statutory laws are but attempted adaptations. We make another approach to the subject if, in the next place, we consider that the special relations of the doctor are as the special relations of his profession. These rela-

* An address delivered before the Kansas City Academy of Medicine.

tions, touching as they do, specifically the infractions of natural laws governing human existence, afford him a viewpoint that commands a wide horizon. It enables him to see when social customs are evil, when economic conditions are disastrous, when religious vagaries are homicidal, when scientific credulity is murderous and when political disturbances are detrimental to the general welfare. And, knowing these things, it must be assumed, logically, that, with his fingers literally on the pulse of the individual, he, in a more figurative sense, can feel the throbbings of the community and knows, consequently, when it is the victim of undue depression or of equally dangerous excitation. Then, using the word community in its enlarged meaning of state, we find the doctor, especially when dealing with questions of military sanitation in foreign wars, or of threatened invasion of our shores by foreign epidemics, or of the protection of our foreign commerce from pestilential influences, giving studious attention to the orderly relations of nations to each other. And, finally, we may say that the civic relations of the doctor are as the relations of the citizen; and that they carry with them responsibilities and duties from which, in a republic, no degree of devotion to professional labors can be pleaded in exemption.

THE EXTRAPROFESSIONAL DUTIES OF THE DOCTOR.

This brings me face to face with the fact that both within the profession and among the people there exists a prejudice against the doctor's participation in any activities not involved in the routine of his daily labors. This prejudice seems to be based largely on an old saw, a shibboleth of the unthinking, which admonishes the shoemaker to stick to his last, a saying, presumably wise, that ought to be ripped up in front and torn down behind, if for no other reason than that, like dozens of its kind, it has acted as an impediment to progress through centuries, and I know no better illustration of the correctness of this judgment than the fact that this same shoemaker, were he to follow this wise old saying, could by no possibility ever be anything but a shoemaker, and that, furthermore, were he to try to follow it, in this day of machinery and factories and great enterprises, he would find himself pounding away at his everlasting last with never a scrap of leather either to peg or to stitch. And so it is with the doctor, who, shutting out all else, clings to his pills and his potions, who sticks to his patient like the shoemaker sticks to his last, with the melancholy difference, however, that the doctor's last will not last everlastingly. The fact is that the doctor who knows nothing but medical science, who has no knowledge of the correlated branches of knowledge, can know but little of that science; that the doctor who knows nothing about the social organism, nothing about the interdependence of different elements of society, can know but little about his own profession as such; and, finally, that the doctor who is only a doctor, who is a mere doctor, can not be very much of a doctor. I make this summarization with the understanding that it applies to only a few and yet to all too many of our profession, for I believe that doctors, realizing the general truth for which I am contending, cultivate something—religion, science, art, literature, legitimate sport or even politics—as a means by which consciously to broaden their intelligence, widen their humanity and extend their influence.

But I am not here to discuss the whole range of a doctor's extraprofessional activities, but rather to restrict my view to the prescribed limits of my theme—to the doctor's participation in politics, both words being employed in their broadest and best sense. And whenever I think of this subject my fancy reverts to the example of Haller, who, next to William Tell, is revered as the foremost character in the history of his country, and who, poet, literateur, botanist, general scientist and for years a legislator was, in the midst of it all, the foremost practitioner of medicine in his day and generation. I like to gather inspiration, too, from the example of Virchow, the little Pomeranian, who for forty years was a member of the Prussian Diet; who for a number of years served also in the German Reichstag; who, while struggling for German unity, fought for human rights against the tyrannical tendencies, alternately, of Metternich and Bismarck; who cultivated the modern languages—English, French, Italian and Arabic; who, delving at Troy, became an original investigator in archeology; who, by patient study, established the science of ethnology; who, by his researches in pathology, laid the foundation of modern medical science; and who, combined with these other qualities, that of a successful practitioner in the wards of the Charité. Then, turning to our own country, I like to think of the twenty-two physicians who were members of the Provincial Congress of Massachusettes in 1774-75, naturally enough a revolutionary body. My bosom always swells a little when I recall that it was Dr. Samuel Prescott of Concord who took that daring midnight ride with Paul Revere. I always bow in reverence to the martyrdom of Warren; and it is a labor of love to trace, as best we may, the very footprints of the five immortal doctors who, as members of the Continental Congress, signed the Declaration of Independence: Josiah Bartlett and Matthew Thornton of New Hampshire, Oliver Wolcott of Connecticut, Lyman Hall of Georgia and Benjamin Rush of Pennsylvania, the last of whom, eminent also in education and philosophy, was likewise so eminent as the leading practitioner of medicine in his day that, this next year, a century after his death, the medical profession of America will make a solemn pilgrimage to Washington to unveil a monument to him as its foremost representative in our national history. There is interest, too, in the fact that William Henry Harrison, distinguished alike as scholar, diplomatist, soldier, statesman and Chief Executive of the United States, received his first broad views of life as a student of medicine.

But passing from such conspicuous, not to say heroic examples, passing by the hundreds of instances of prominent services rendered by medical men in the Congress, in our legislatures, in executive offices, in military and diplomatic services, I like to contemplate another type of doctor. He may be found anywhere in the fashionable quarter of the metropolis, in the tenement quarter, in the manufacturing city, in the mining camp, in the prairie hamlets; but it is pleasant to think of him in a quiet country town, with its academy, its schools, its half dozen shops, its little manufacturing interests, having its coteries of culture, its social groups, its clusters of wealth, its modicum of poverty, all surrounded by smiling farms. I like to think of him in his library, where anatomy and art, therapeutics and theology, bacteriology and biography, where medicine and music are well intermingled, while alongside of his ponderous United States Dispensatory stands the United States Dispensation of Providence, otherwise known as

the Constitution of our country. With his medical journals come the literary magazines and the newspapers, from all of which he gleans the freshest thought and goes forth day by day with quickened step and cheerful countenance fulfilling, in largest measure, the ideal of a doctor. While feeling of my lady's pulse he tells of the latest White House party, leaving radium for the neurasthenic professor, Panama for the rheumatic statesman, the flurry in cotton for the misanthropic merchant, the terms of the prospective protocol between Russia and Japan for the brain-weary diplomatist—they all live in the doctor's town. Or we may contemplate him, at 4 o'clock in the morning, buttoning his coat as he is about to start for home, pausing at the door to observe that, in this advanced day, a republic may be more easily born than a man—although in the former instance the after-pains may be the more serious.

But the same doctor, having indulged but little in prophecy and less in physic—having manifested intelligence in many topics other than medicine and having thereby gained prestige for intelligence and sagacity—is the very man to say, for instance, to his congressman:

"The pending bill for increasing the power and scope of the bureau of public health is a good one. I hope you can see your way clear to vote for it and for the necessary appropriation to carry it into effect."

Or, familiar with the qualifications of his neighbors, he is the very man to start a wholesome movement by saying to his patient, the merchant; or his friend, the manufacturer; or his colleague, the doctor:

"I've watched Barton's course ever since he's been out of college. He's an intelligent fellow; splendid integrity; knows the requirements of public life. Don't you think we'd better send him to Congress?"

"Yes, Doctor, but how are we to do it?" is the not unnatural reply.

"Talk it up; present it to the unions; see the party workers; go to the primaries everyone of us and select delegates that will secure him the nomination. Remember the time to make the fight is before the nomination, then keep it up after!" replies the doctor, as he drives away to get his neighboring doctor, or still better, his county medical society, to go to work along the same lines to the same end.

WHAT HAS BEEN ACCOMPLISHED.

It is by initiative in action such as this, made effective by organization such as I shall presently describe, that the largest and best results can be realized. This becomes apparent when we reflect what our profession has accomplished, through legislative channels, for the public weal, without that complete concert of action which, in peace as in war, is the necessary basis of efficiency. Thus, for the first seventy-five years of our national history, all efforts to secure the enactment of wholesome sanitary laws, or wholesome laws to control the practice of medicine, were failures because the profession was unorganized. The earlier steps in organization, which were, in fact, efforts to accomplish, by voluntary association, what had failed of accomplishment through attempted legislation, resulted only in the development of isolated and often hostile groups. With the demonstrated failure to do by voluntary co-operation what experience has shown can only be done by the government, there came about a more serious effort to influence legislation to needed ends. One state after another established state boards of health, supplemented, later, by county and city organization, and still later, by the evolution of the United States Marine-Hospital Service, into an efficient national public-health service. Then came laws to regulate the practice of medicine, until now the people in every state and territory have provisions for their future protection against the depredations of ignorance and charlatanism in medical practice, while medical education itself has been placed on an elevated plane. As these laws—sanitary and medical—multiplied, however, it became apparent that they lacked uniformity and that therefore there could be neither complete co-operation in health matters nor reciprocity in medical licensure between the different states. This led to the development of corrective, or, more properly, co-ordinating agencies. Thus, relating to the public health, the Congress, by act which was approved July 1, 1902, provided for an annual conference of state and territorial health officers and the United States Public Health and Marine-Hospital Service, by which practical co-operation in repressing foreign epidemics or in suppressing domestic ones, has been made possible. In the regulation of medical practice a conference of state examining and licensing boards, duly authorized under the laws of several states, was held in St. Louis in November, when final arrangements were effected for reciprocity in medical licensure between the states of Michigan, Ohio, Indiana and Illinois. This is the beginning of a wholesome movement that must inevitably continue until it embodies every state in the Union, Meanwhile, under the impetus imparted by the medical profession, international sanitary conventions have been held, public-health associations and state sanitary conferences have been established, water and food supplies have been subjected to inspection, dwellings have been made to conform somewhat to sanitary requirements, hygiene has been introduced as a study into the public schools, and above all, the people have been taught, measurably, to think on the great question of right living. The net result of it all is that, with morbidity and mortality alike lessened, "the span of life," according to Mulhall's statistics, "has been lengthened six years since 1880"—an achievement for which the world stands indebted to the genius and the disinterestedness of the medical profession.

SOME THINGS THAT NEED TO BE DONE.

Much, however, as has been accomplished, we must recognize that we are yet only in the beginning of progress. The preliminary skirmish has hardly yet been fought with contagious and infectious diseases. The first case of contagious disease ought not to occur in a community, although the development may be pardoned as an accident; but when a second case occurs, some law, natural or statutory, has been violated, and somebody is to blame. The existence of an epidemic is a proclamation of defective civilization. The influence of heredity on an individual and a people has not yet been reduced to definite terms. We are, in fact, only in the stage of preliminary observation with reference to many far-reaching questions, the solution of which must depend on the accumulation of data on the broadest possible scale. Among these may be mentioned atmospheric contaminations from various sources, pollutions of the soil, and the poisoning of streams alike by sewage and sullage. This last subject, concerning which sufficient is already known to pass it on from the scientific to the legislative and executive category, has been brought afresh to the public mind by the tragic epidemics of

typhoid at Plymouth, Pa., Ithaca, N. Y., and the last, at this very time, at Butler, Pa., each one of which was entirely and easily preventable under adequate laws and efficient executive administration. The necessity for inspection, by constant patrol, of all sources of general water supply; in fact, the protection of all the sources of life from the contaminations now being perpetrated, are subjects that the medical profession must bring home to the popular intelligence and the popular conscience.

SOME PRESSING RESPONSIBILITIES.

Then there are some responsibilities that we must recognize as being constantly before us. Thus, the status of the medical service in both the Army and the Navy and under the Bureau of Public Health and Marine-Hospital Service, must always be the object of interested concern to physicians in civil life, if for no other reason than that the demonstrated efficiency or inefficiency of such service is accepted, in a degree, by the public as a criterion of the efficiency or inefficiency of the medical profession in general. This was lamentably demonstrated during the Spanish-American war when the flower of American manhood, assembled in a salubrious climate, fell victims to preventable disease and died in such numbers that the record must forever remain one of the blackest pages in our military history. This calamity, calamity if not crime, resulting as it did from the arbitrary course of the commanding officer, Gen. John R. Brooke, in disregard and offensive disregard of the advice of his sanitary officers, was at once charged by the public to the inefficiency of the medical corps. "Where is your boasted sanitary science?" "Where is your progress in the art of curing?" were the questions impertinently asked of doctors all over the country. Happily, the contrasting picture was furnished by a representative of our own profession, Dr. Leonard Wood, who, as commanding officer in the field, at the head of troops in the insalubrious climate of Cuba, made a record for the healthfulness of his command that must remain an object of pride and emulation; and who, subsequently, as military governor successively of the pestilential cities of Santiago and Havana, redeemed them to health, to commerce and to civilization—a conspicuous service for which, if for no other reason, he deserves the gratitude not only of our own profession, but of the Congress and the country. The efficient service of Surgeon-General Wyman, who, at the head of the Public Health and Marine-Hospital Service and in connection with state health authorities, prevented the invasion of the country by the bubonic plague, is another instance that has helped the medical profession to retrieve the prestige it unjustly lost in consequence of the Brooke blunder at Chickamauga. These examples are enough, however, to show why, from selfish, if for no other reasons, the medical profession must always regard the interests of its representatives in the public services as its own interests; why their business must, to an important extent, always be regarded as its business. I hasten, however, to state that the medical profession, while not relinquishing the right of initiative, will not manifest this interest by obtrusive meddling in the administrative details or in matters of policy, but that so far as is now apparent, it ought chiefly to promote such suggestions and requests for congressional action as may emanate from the heads of the respective services.

There are, however, in addition to the foregoing demands for the consideration of the medical profession, a number of others pertaining to the other departments of government. Thus, for example, the Department of Agriculture has, at different times, brought forth recommendations relative to measures of deep concern to the public health. Some of these recommendations, notably those relating to the animal industry and those concerning entomologic problems, to say nothing of those calculated to protect our food supply, are of decided interest to physicians and have already been crystallized into laws. A pending recommendation relative to a complete survey and classification of the medicinal flora of the United States and insular dependencies, with determination of the alkaloidal constituents and constitutional effects of each plant—is one that appeals to the physician, not only because it may enrich his remedial resources and thus benefit humanity, but because, in its economic and commercial aspects, it is fraught with great possibilities. Another recommendation that has emanated from the Department of Agriculture is one providing, by means of analysis, assays, inspections and certification for the purity of all pharmaceutical and proprietary medicines, exposed for sale in the United States, and for a laboratory in which to carry on the work. That there is a necessity, and a pressing necessity, for such a bureau is apparent to every physician who is familiar with the unsatisfactory if not deplorable state of sophistication in medical supplies; that the regulation of this condition is a proper function of government, and that it can not be done by any other than governmental agencies seems to be indicated by the uniformly disastrous experience of the medical profession in attempting to control other irregularities by voluntary means; from which follows the conclusion that our duty as a profession lies in the direction of securing legislation by the Congress, whereby our medicines, like our foods, shall be subject to inspection and certification by the National Government.

UNIFORM MEDICAL LAWS.

Another object, already hinted at, to which the organized profession should devote its serious attention, consists in securing the adoption, by all states, of uniform laws relating to the public health, to vital statistics and to the regulation of the practice of medicine. It seems that, under the organization of our national and state governments, respectively, police powers, of which sanitary and medical laws are but expressions, were reserved to the states and that, consequently, such laws can not be enacted by the National Government, except insofar as they may relate to commerce between states. This being true, it follows that no national law can be enacted that will touch these subjects—a condition that has resulted in the lack of uniformity in state laws and the consequent inability to secure co-operation between the states in their enforcement. In the face of this state of affairs it seems to be the duty of our profession, as now organized, to secure, through its constituted committees, drafts that will serve as models for the three sets of laws indicated; and that, as occasion arises for the amendment of existing laws or for the enactment of new ones, it is our duty to press these models for adoption by the various states until, in effect, the laws on public health, vital statistics and the practice of medicine, shall be uniform all over the United States.

PRESENT STATUS OF ORGANIZATION IN THE PROFESSION.

It becomes apparent, at a glance, that to secure the necessary action by the Congress, or by the various legislatures on the subjects I have mentioned, chiefly by way of illustration, we are confronted by the necessity for three requisites, namely, organization, discipline and ac-

tion. So far as organization is concerned, I am pleased to report that the condition is rapidly becoming satisfactory. The reorganization of the American Medical Association, with the various state associations as integral factors and with county societies as the primary units of organization, the medical profession of the whole country is, for the first time, in a condition of effective solidarity. This general scheme of organization has been supplemented by special agencies calculated to bring the full weight of the profession to bear on important public questions. These special agencies consist of a National Committee on Medical Legislation, consisting of a limited number of members, assisted by a legislative council embracing not only the National Committee on Medical Legislation, but of one member for each state and territory and for each of the public services, while this, in turn, is supplemented by a National Auxiliary Congressional and Legislative Committee, consisting of one member in each county in the United States.

MOTIVES AND METHODS OF PROCEDURE.

And now permit me to say a few plain, very plain, words about motives and methods underlying this extensive organization. In the first place, from the day when, in our early colonial period, a few physicians gathered together, to the present when, within the limits of our confederated organizations—national, state and county—there are quite 75,000 out of the 140,000 physicians of the country, the primary motive has been, as it is to-day, a desire to promote the scientific excellence and the humane efficiency of the profession. The motive underlying the political aspect of our organization, however—the word political having no party significance whatever—requires rather more definite explanation. In the first place, in the long course of agitation touching sanitary and medical legislation, national and state, the medical profession has been held responsible for every measure, however ill considered, absurd or mischievous, that has been brought forward. On the other hand, many meritorious measures, on which the medical profession would like to have spoken, and concerning which legislators would naturally have desired the advice of the profession, have failed of passage, because the profession, not existing as a compact body, or being divided in council, or having no means of arriving at either a consensus of opinion or a concert of action, has failed to bring its proper and legitimate influence to bear on the question. This condition, it is believed, has been at least measurably remedied by the creation of the committees to which I have alluded, but whose respective duties require additional explanation. Thus, in the first place, it is the duty of the National Committee on Medical Legislation, appointed by the American Medical Association, to examine carefully into the merits of all proposed legislation relative either to the public health, to vital statistics, or to the practice of medicine, and as far as possible, secure uniformity in these provisions—all proposed legislation affecting either the efficiency, status or personal welfare of the medical profession, as represented in the public services; and all proposed legislation in any way relating either to the science of medicine or to the correlated sciences.

The results of these deliberations are then to be laid before the national legislative council, already alluded to, consisting of the National Committee on Medical Legislation, and one representative from each state and territorial medical association and one from each of the public services, namely, the Army, the Navy and the Public Health and Marine-Hospital Service. It is assumed that the findings of such a representative body can be accepted for the guidance alike of the profession and of the Congress. Accordingly it becomes the duty of the National Committee on Medical Legislation, first, to make the proper representations to the respective committees before which the various bills may be pending, and next, when deemed necessary or expedient, to communicate the necessary advice to the National Auxiliary Congressional and Legislative Committee, consisting of one member in each county in the United States. It then becomes the duty of each member of this large committee, acting under the regulations as the confidential correspondent of the national committee, to bring all and only such matters of pending legislation as may be thus referred to him, to the attention of the medical profession and to the people of his respective county, and by every honorable means—personal and political, individual and professional, private and public, direct and indirect—secure desired action thereon by his representatives in both branches of the Congress of the United States. And it is made his further duty promptly to report all such efforts on his part to the chairman of the Committee on Medical Legislation of the American Medical Association.

This scheme of organization, already effected for national or congressional purposes, is equally effective in the different states, the co-ordinating center, in such instances, being the committees on medical legislation appointed by the respective state associations, the advisory council being the district councilors, while the local auxiliaries may be the regular appointees of the national committee, which appointees are, it will be remembered, nominated by the presidents of the state associations.

In this way, and in this way only, so far as the National Committee on Medical Legislation has been able to determine, can the medical profession as a body be safely guided in its opinions and actions on legislative questions, and in this way only can such opinions be reflected effectively on the Congress. The policy is not, however, in any sense, one of "stand and deliver." It is probably true that the few dozen doctors in a county, or the few hundred in a congressional district, or the few thousand in a state, acting as a unit, might exercise a modifying influence on results; but this is a phase of the question not to be contemplated. The theory is, rather, that an explanation made by a constituent is generally more lucid and convincing than is the same explanation when made by a strange committeeman, particularly when the committeeman can not get within "earshot" of the law-maker. Aside, however, from the humor of the observation, the fact remains that advice from acquaintances, from friends, from family physicians, whose relations in life are known and of whose intelligence and disinterestedness there can be no question, is naturally enough the very advice which a conscientious congressman or legislator would gladly welcome.

The chief object that I have had in view in presenting this brief résumé of a really very important subject would be lost if, in conclusion I did not invoke your cordial co-operation and that of the entire profession in carrying this work to its fullest fruition. In this connection, let us remember that all co-operative endeavor becomes effective only when approached in a spirit of concession. The art of politics has been defined as the art of compromise; and, my friends of the profession, we, in the sense that I have attempted to define, are in politics. This fact has been recognized all over the

country and in the great work of organization, with not more than two exceptions, the spirit of compromise has been so dominant that prejudices, predilections, prerogatives and even minor principles have been willingly and gladly subordinated to the greater principles for the conservation of the greater good. This spirit—the very soul of fraternity, coupled with the spirit of industry, the spirit of culture, the spirit of patriotism—must be kept in the ascendant if we, as a profession, shall maintain our just position and discharge our full duty as citizens of this great republic.

Original Articles.

A CONTRIBUTION TO THE STUDY OF VISUAL DISTURBANCES IN BRAIN INJURY.*

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CHICAGO.

NARRATION OF CASE.[1]

Hospital Record.[2]—Fred. L., was brought by patrol about 9:30 p. m., Feb. 11, 1899, with gunshot wound in the left temple, one and one-half inches back of left eye, one-half inch above zygoma (Fig. 1), the revolver having been held within a few feet of the head. Examination found the patient pale, pulse slow and full, pupils moderately dilated, cold perspiration, no focal symptoms (?); a round hole with edges blackened and inverted in the location above described. Hemorrhage severe. Can not find bullet by palpation. Next day found bullet had flattened against side of the skull, and was removed (?) by Dr. C. within a few minutes after the injury. Patient was unconscious for about 14 days; had partial aphonia.

No convulsions at any time. Summary of the pulse rate and temperature: During his hospital residence his temperature was above normal only on two occasions: on March 15, 100 F.; on March 16, 100.8 F. The pulse rate remained below normal until February 20, after which it remained normal, 72. The lowest rate, 52, was recorded February 18. No further record kept.

Diagnosed—Bullet wound of the head; concussion of the brain. Result—Cured. Discharged March 9, 1899.

Patient's Story.—The patient gives me the following history: For a few days after returning to consciousness he could not recognize familiar objects by sight; he did not know what the pictures on the wall were; on looking out of the window he could not recognize the streets or the locality. He was unable to count or name the letters of the alphabet. He was lost.

On his way from the hospital to his home he was still unable to recognize the familiar streets. He says this inability to recognize the streets lasted only two or three days after returning home. All other things that he saw he knew at this time. There were no hallucinations of vision. He was unable to call the names of the most familiar objects about the room, although toward the end of his hospital sojourn he knew the use of them. For example, he could not recall the name of a "chair," but he knew its use.

When he wanted to smoke he could not recall the name "cigar," but would indicate it by making the motions of holding and puffing a cigar. Neither the touch, taste or smell of the cigar would bring the name to his mind, but when "cigar" was mentioned to him he would immediately recognize and repeat it, but would soon forget it. The ticking of a watch or ringing of a bell did not bring back the name of the object. He would speak of a street car as a "thing to ride in," etc. He could not recall the names of his most familiar friends, but he recognized them, for example, his brother-in-law, whose name is Robert, he would call "Lawrence" or other names.

For several months after the injury he was unable to read printed or written words. Three months after the injury he wrote a letter to his father, which his father answered. The patient was unable to read this letter after he had written it. He says he would forget the last word on going to the next.

Author's Findings After One Year.—Jan. 24, 1900, he came into my service at the Illinois Charitable Eye and Ear Infirmary, complaining of difficulty with his sight. Age 28 years. An intelligent, educated German. No history of previous disease of the eyes or dimness of vision; no history of syphilitic infection or evidence of tabes.

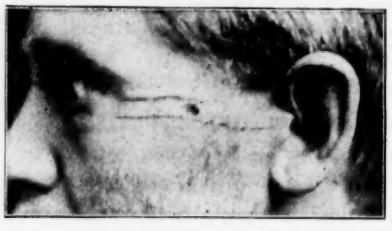

Fig. 1.—Showing entrance of bullet.

R. V. 20/20+, L. V. 20/20+. Pupils normal in size, and reacted normally to direct light, consensually and to accommodation. Discs slightly paler than normal. No diplopia present, right homonomous hemianopsia. Negative scotoma. Intact part of the field contracted for form and color (Fig. 2). I searched diligently for hemiopic pupillary rigidity, but it was not found.

He can not raise the right foot well, walks lame. Little reduction in strength of right hand (he is right-handed) as compared with the left. Right half of the body anesthetic, most pronounced in the foot. No paralysis of muscles of the right side of the face. Hearing normal in each ear. Taste on each side of the tongue unimpaired.

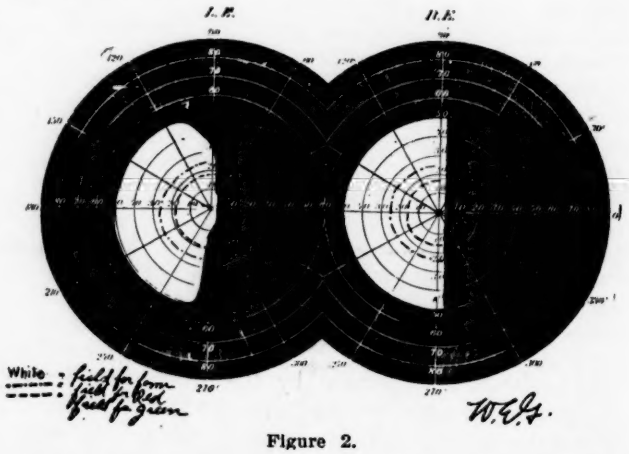

Figure 2.

He had severe headaches (not localized) for ten months after the injury. He has difficulty in remembering proper names; for example, he can not remember my name, although he knows me well. On handing him my card he has a little difficulty in reading it. He can not give the name of this hospital nor of the street, although he is acquainted with the locality. He writes spontaneously and less freely from dictation.

In view of the presence of hemiparesis, hemianesthesia and hemianopsia, I could not accept the statement of the physician who first saw the patient that the bullet had not penetrated the skull. Consequently, I did not agree with the diagnosis —"concussion of the brain"—made at the hospital. Radiographs were taken, plainly showing the bullet in the occipital region, left hemisphere (Figs. 3 and 4).

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Nervous and Mental Diseases, and approved for publication by the Executive Committee: Drs. Richard Dewey, H. A. Tomlinson and F. W. Langdon.

1. Case reported to Chicago Ophthalmological and Otological Society, May 13, 1902.

2. Taken from Alexian Brothers' Hospital case record.

Condition After Three Years.—Feb. 19, 1902, three years from date of injury, he visited me again. V. R. 20/20—. V. L. 20/20—. Pupillary action normal. Field of vision same as when taken two years ago (Fig. 2). He still has difficulty in remembering names, as, or instance, he can not give my name, although when it is written he reads it.

There is no hemiplegia or hemianesthesia, but there is paresthesia of the ball of the right foot, and especially of the second toe. He locates a "sore disagreeable feeling" in the left occipitoparietal region, about the size of a silver half dollar. He has had this feeling more or less since injury. His grasp in the right hand is greater than in the left. He is not lame nor has he any difficulty in walking.

He is a finisher and painter, and is now painting, on a scaffold, the outside of one of the sky-scrapers in this city. He tells me he has great difficulty mixing paints. He can select the color if the name is given him, but he can not give the name of the color that he wants (anmesic color blindness), and as occasionally the mixing is done on an upper floor, he has to go to the basement himself instead of sending a helper to get the "color" he desires. This is especially true at the present time with shades of color that have compound names, such as bismark-brown, yellow-ochre, burnt-umber, chrome-yellow, vandyke-brown, etc. He can now give the names, red, yellow, green, blue, without difficulty when he sees them or wishes to recall the particular color. When he began painting again after his injury he could not even do this. He performs the Holmgren test perfectly. It should be added that while he was explaining to me his difficulty in getting the name of the particular shade he saw or desired, he enumerated a long list of names of special shades without hesitation. In this list were the names I have used above.

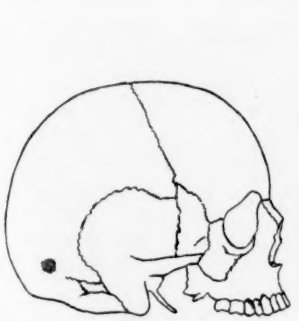

Fig. 3.

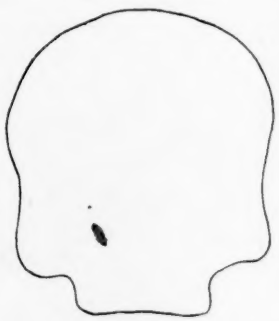

Fig. 4.

Figs. 3 and 4.—Lateral and posterior views of skull, with shaded area showing bullet. Drawings accurately reduced from radiographs.

Appearance of Optic Discs.—In the right eye the bluish-white lamina cribrosa shows through the greater part of the optic disc, especially on the temporal side. The borders are sharply defined and the vessels but slightly changed; veins possibly a little engorged. Some connective tissue is seen at the bifurcation of the main artery, probably congenital. The left optic disc is pale, but does not have the bluish appearance of the right, and the lamina cribrosa is but dimly seen. There is some connective tissue at the bifurcation of the central artery. The outline of the margin is pronounced, with no signs of choroidal atrophy in the margin. Veins are possibly slightly engorged. No other change was observed.

Condition After Four Years.—Feb. 26, 1903. R. V. 20/20—. L. V. 20/20—. Field same as on last examination. Current speech seems to be about normal. When asked "Who is President of the United States?" he replied, "Garfield," and finally, after much effort and mispronunciation, got the name of the President correctly. For the last several months he has set himself to the task of increasing his vocabulary for names. By constant repetition he is slowly becoming able to retain permanently the names of the people he most often needs to address. He no longer forgets my name. He can now recall at will the names of a few of the principal streets, although to-day he was unable to give the name of one of two streets passing a shop where he has worked since last November. He carries a street directory with him and underscores the name of the street he wishes to reach. Sometimes he can remember the first letter and recognize the name when he finds it on the printed list.

While before his injury he was an omnivorous reader, he now reads at most disconnected newspaper paragraphs and letters from his father. In each letter there are words which he is unable to make out, and he usually writes his father for an explanation (alexia). The patient is of the opinion that the rate of progress from complete alexia (pure), in 1899, to his present attainment has been less during the last year than formerly. He has made no systematic effort to train this faculty. He says he has especial difficulty with long words: that seeing the left half of the word, and then, as he turns his eyes to increase his field, seeing the other half, he forgets the first, this explanation does not entirely satisfy him, but he is unable to add to it. At 15 inches from his face he is unable to keep in his eye a word longer than ¾ of an inch. At closer distance the length of the word seen is more limited. He thinks his chief difficulty is with long and (to him) unfamiliar words. Formerly he had the same difficulty with short words. By intently looking at the word which puzzles him he is usually able to read it after a time. He has had no trouble in writing at any time.

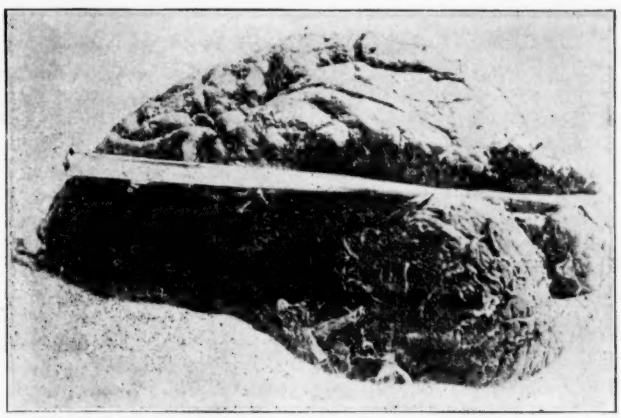

Fig. 5.—View showing assumed line of transit of bullet. The third and fourth temporal and middle convolutions suffered.

In determining the probable localization of the lesion, I have had the good fortune to secure the co-operation of my friend and colleague, Dr. William T. Eckley, professor of anatomy in the College of Physicians and Surgeons, the School of Medicine of the University of Illinois. Dr. Eckley also secured the assistance of Prof. Harry E Santee. Their methods and conclusions are given below.

Anatomic Report.—"With the able assistance of Dr. Harry E. Santee, we are prepared to submit the following report, in which we duplicate to the best of our ability, on a cadaver, the line of transit and brain tissue traversed by a bullet in the above case.

"As indicated by the skiagraphs submitted by you to us, the bullet now occupies in your patient a space three-quarters of an inch above and one inch and a quarter to the left of the external occipital protuberance, in the left cerebral hemisphere in contact with or very close to (probably ⅛ inch) the skull in this region. A scar on the patient, just above the zygomatic arch and in the junctional angle of the frontal and zygomatic processes of the malar bone, marks the place of entry of the bullet. On a cadaver's head, conforming in measurements to the head of the patient, we located the entry of the bullet and its resting place, by comparison with head of patient and skiagraphs; and by trephining through the skull at these extreme points, succeeded in passing a steel spike ¼ inch in diameter through the brain in the probable line followed by the bullet. The hypothetical line of transit

passes just above, but does not touch the superior border of the petrous part of the temporal bone; and this being the only structure in the area under consideration, capable of producing deflection of the missile, we concluded the same followed a straight line, and on this assumption we venture to enumerate the brain regions necessarily traversed by the bullet.

"(*a*) The greater part of the third temporal convolution, in which the so-called naming center is located, was destroyed.

"(*b*) The fourth temporal convolution is almost destroyed, the upper part especially.

"(*c*) The anterior end of the inferior occipital convolution is bruised.

"(*d*) The outer surface of the middle occipital convolution is penetrated.

"(*e*) The perpendicular fasciculus of association fibers was in part cut off. This band of long association fibers, while of doubtful function, extends from the inferior parietal to the second and third temporal convolutions; and also joins the

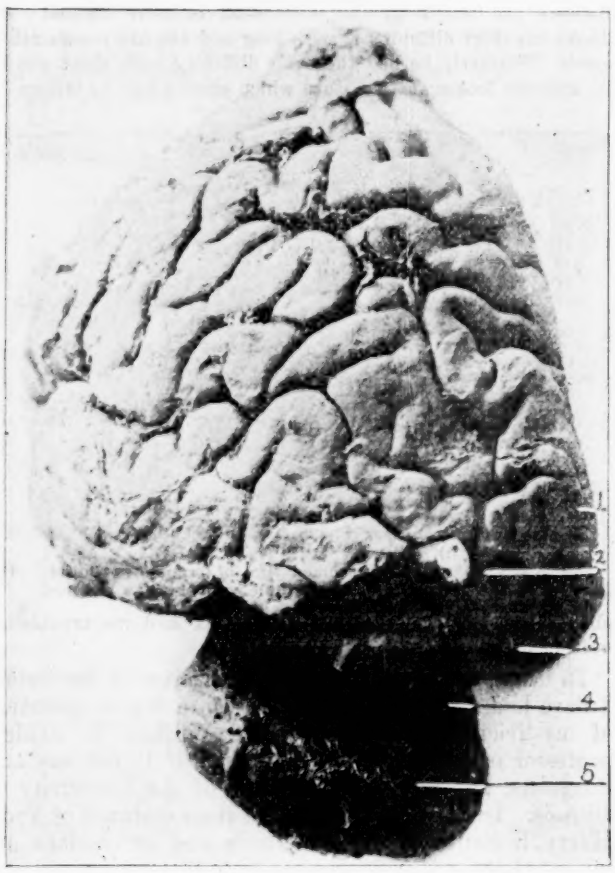

Fig. 6.—Showing distance of posterior part of wound from the cuneus, about one inch. 1. Sup. oc. convolution. 2. Middle oc. convolution. 3. Inf. oc. convolution. 4. Transverse fissure. 5. Cerebellum.

superior with the middle and inferior occipital convolutions and with the fusiform gyrus of the temporal lobe.

"(*f*) The association fibers between the tentorial and convex surfaces of the occipital lobe have been in part cut off.

"(*g*) The inferior longitudinal fasciculus connecting the temporal and occipital lobes, thus associating the center of hearing and visual memory respectively, may have been cut off or injured by concussions."

ANALYSIS OF FINDINGS.

This lesion, not involving the internal capsule (three-fourths inch away), the hemianesthesia and hemiplegia, principally confined to the right leg, being temporary, could be accounted for by hemorrhagic disturbance of the tracts leading from the occipital cortex as they pass forward to enter the internal capsule; and not by permanent lesion, the hemianopsia in this case being due to severance of all the visual bundle of radiations of Gratiolet in this hemisphere.

The *mind-blindness* can readily be accounted for by general circulatory and consequent nutritional disturbance of the brain resulting from the injury.

The *verbal amnesia* would seem to be of the visual type. It can not, however, clearly be classified as "visual aphasia," as described by Freund[1] and others, because names of objects seen are not recalled by aid of other senses. For example, the smoking of the cigar which would call into co-operation with sight the senses of touch, taste and smell, did not bring back the name. Listening to a watch or a bell did not bring back the name "watch" or "bell." However, his loss of memory for substantives, especially proper nouns, has been classified as visual aphasia by some authors, the name being immediately recognized when heard but soon forgotten.

It is a significant fact that in 25 cases of aphasia in various forms, in otitic abscess of the left temporal region, collected by Merkens,[2] the only symptom common to all, was visual aphasia. Oppenheim[3] says this symptom "appears to be caused by lesions at the border of the left occipital and temporal lobes, and

Fig. 7.—The needle represents (a) course of bullet through third and fourth temporal convolutions; (b) relation of course of missile to descending and posterior horns of lateral ventricle; (c) relation to radiations of superior longitudinal fasciculus, optic radiations and inferior longitudinal fasciculus.

so extensive as to divide the conducting tracts leading from the posterior lobes to the center for tone pictures." C. K. Mills[4] teaches that there is a concept area for names in the mid-temporal region, probably in the posterior fourth of the third temporal and the occipital (left) in this region, which he calls the "naming center."

It can not be definitely determined by the findings in this case whether the verbal amnesia is a result of destruction of the greater part of the cortex in the third and fourth temporal convolutions (posterior) and injury to the cortex of the anterior end of the inferior occipital convolution; or of subcortical lesion in the middle occipital convolution, extending backward nearly or entirely through it or a result of all the lesions.

However, in view of the fact that there is little or no evidence heretofore brought forward of subcortical lesion in the inferior occipital convolution producing this symptom; and on the other hand, much

1. Freund: Archiv. für Psych. u. Nervenkrank., xx, S. 276
2. Merkens: Deut. Zeit. f. Chir., B. 60, S. 417.
3. Oppenheim: Diseases of the Nervous System, Ed. 1900, p. 464.
4. Mills: THE JOURNAL A. M. A., October, 1902. Mills and J. W. O'Connell: Jour. of Nerv. and Mental Dis., vol. xx, 1895.

evidence has been accumulated showing that cortical lesion in the third and fourth temporal convolutions produces this symptom, this case furnishes strong corroborative evidence in favor of the teaching of Professor Mills and others, that there is a concept area for names in the third or fourth temporal convolutions and anterior part of inferior occipital convolution, or in all.

The ability to increase his vocabulary for proper names shows that there are other cells that have this function, though undeveloped, and for the reason given below in connection with word-blindness, this undeveloped word center is probably in the right hemisphere.

Amnesic Color Blindness.—The patient was unable to name any color at sight for many months. At the present time (four years after date of injury) he is unable to give the names of particular shades, such as bismark-brown, chrome-yellow, etc., although being a painter, if given the name he can select any shade that he uses, but he can name the ordinary colors when he sees them, such as brown, yellow, etc. His color sense is normal, as he performs the Holmgren test perfectly. Therefore it is strictly an aphasic symptom, and has nothing to do with disturbance of the color sense.

The presence of this symptom in lesion of the left middle occipital and third and fourth temporal convolutions proves conclusively the correctness of Willbrand's[5] supposition that the lesion must be in the left hemisphere in a right-handed person. But in addition it shows this to be not the whole truth, for his partial reacquirement of this function by persistent training during a period of four years, can be explained only as an education of an undeveloped center in the right hemisphere for the same reasons as those given below for the reacquirement of names and the reacquirement of the ability to read. This lesion is evidently produced by severance of the path leading from the center for color vision at the bottom of the calcarine fissure (Henschen),[6] anteriorly to the speech center.

Word-Blindness.—The pure word-blindness, according to the patient's explanation is probably partly a forgetfulness of parts or the whole of a word preceding the part in mind—a type of verbal amnesia. This aphasic disturbance was complete for several months (more than three months). Improvement has been gradual until at the present time he can read, although with difficulty. The gradual recovery from this aphasic condition can not be accounted for by a reparative process taking place in the left middle occipital and third and fourth temporal convolutions, the bullet being larger than 22-caliber.

Phelps[7] reports a case of gunshot wound of the brain, in which thirteen years afterward the bullet tract was converted into a membranous canal. Doctors Sanger Brown[8] and Schaefer found, six months after removing the occipital lobe of a monkey, that the cut surfaces had remained unchanged, the edema *ex vacuo* taking the place of the lost part. It is hardly necessary to add that evidence is lacking of reparative process in lesion of nerve tissue in brain and cord.

We are compelled to assume that other specialized nerve cells have taken on this function, and from our knowledge of the bilateral nature of other functions of the brain it is reasonable to assume, according to Bastian's[9] teaching, that the right hemisphere has an undeveloped word center which is capable of education, contrary to the views of Dejerine[10] and Lichthein that only the left hemisphere is concerned in word-blindness. In the three other cases of pure word blindness (Dejerine,[10], Redlich and Wyllie) so far reported, in which autopsies were obtained, the lesion found in each case was in the white substance in occipital region (left) together with damage to lingual fusiform hypocampal gyrus and cuneus. In these cases the cortical region injured is destruction of the greater part (posterior) of the third and fourth temporal convolutions and the bruising of extreme anterior end of left inferior occipital convolution, the cortical area common to this case and another case reported being the fusiform gyrus.

Therefore, in this case, it is altogether probable that the lesion causing this alexia is mainly due to the injury of the white substance in the occipital region, involving the lower part of the inferior longitudinal fasciculus (Dejerine[10]) and not due to direct cortical lesion.

Dyslexia.—The distaste which the patient experiences for reading (dyslexia) is partly due to the great reduction of the field resulting from the hemianopsia and from the concentric contraction of this half field to 50″ for form (20″ for red and 10″ for green); and partly due to partial word-blindness and also to fatigue which comes from developing a function in the right hemisphere comparable to the discomfort evinced by a child in learning to read.

Optic Atrophy.—There being no history of previous severe illness nor dimness of vision or other ocular trouble, nor evidence of tabes nor syphilitic infection present, it must therefore be assumed that the gunshot wound is the cause of the change in the discs. Primary atrophy of optic discs, if we adhere to the doctrine of the neuronic theory, is almost inexplicable when the lesion is behind the central ganglia, as it is in this case. The "indirect"[11] theory, lately put forth is the only explanation so far offered.

Prognosis.—The unusual fact of the toleration of the bullet by the brain for a period of four years may be due to its present location, being possibly on the tentorium. The irritation of this membrane may have produced proliferation of the connective tissue about the bullet, encysting it. If this be true, for this reason the prognosis in this case is good. Surgical interference would probably improve prognosis.

CONCLUSIONS SUGGESTED.

The findings in this case suggest the following conclusions:

1. A cortical lesion the size of a 32-caliber (?) bullet, involving the greater part (posterior) of the third and fourth left temporal convolutions and bruising of extreme anterior end of inferior occipital convolution, and a subcortical lesion penetrating the middle occipital convolution at the same level, produces verbal amnesia, especially for names of objects seen and having been seen, particularly those which have proper names (concrete nouns), and for names of colors, especially names of special shades, such as bismark-brown, etc. (amnesic color blindness), and pure word-blindness (alexia), which may be in part a form of visual verbal amnesia.

5. Willbrand: Quoted from Swanzy, A System of Diseases of the Eye, Norris and Oliver, vol. iv, p. 562.
6. Henschen: "Brain," London, 1893, p. 170.
7. Phelps: "Traumatic Injuries of the Brain," p. 67.
8. Sanger Brown and Schaefer: Philo. Trans. Royal Society of London, vol. clxxix (1888) B., pp. 303-327.
9. Bastian: Allbutt's System of Medicine, vol. vii, p. 437.
10. Dejerine: Quoted from Swanzy, "A System of Diseases of the Eye," Norris and Oliver, vol. iv, p. 561.
11. Barker: The Nervous System, p. 18.

2. Verbal amnesia is a result of lesion in the cortex of third and fourth temporal convolutions, left hemisphere and injury to cortex of anterior end of inferior occipital convolution.

3. The amnesic color blindness and alexia result from subcortical lesion in left middle occipital convolution.

4. The reacquirement of these functions in a man 28 years of age is a slow and tedious process of education of the specialized though undeveloped cells of the right hemisphere, requiring years for even partial accomplishment.

5. Injury to the optic radiations of Gratiolet may produce negative scotoma, contrary to the teaching that such a lesion produces positive scotoma.

6. Primary atrophy of the optic discs occurs in lesions of the left tempero-occipital region.

DISCUSSION.

DR. H. T. PERSHING, Denver—It is somewhat precarious to infer the place of a lesion from an attempted reproduction of it on the cadaver of another person. From its clinical features, I think the case was one of subcortical visual aphasia. The fact that the patient could write showed that his visual memory was good, but the fact that he could not read what he had written showed that there was an interruption of the association fibers. This explanation would also account for his inability to recall nouns, especially proper nouns, because, according to the best theory we have to offer, a noun is recalled by the visual image of the corresponding object. My opinion, therefore, is that the case was one of subcortical visual aphasia, due to a lesion in the immediate vicinity of the angular gyrus.

DR. H. T. PATRICK, Chicago—I feel inclined to support Dr. Pershing's view. I understood from Dr. Gamble's paper that the last examination of the patient's eyes made recently showed a vision of 20/20 in either eye, and yet there was double optic atrophy. How does he reconcile these statements? Furthermore, how could this injury cause double optic atrophy? The course of the projectile, as traced by Dr. Gamble, would hardly account for the motor and sensory disturbances in the right lower extremity. In order to account for those symptoms, the bullet would have to go a little deeper and start a little further forward, which would be a much simpler explanation than to invoke the aid of disputed points in anatomy and physiology or theories that are as yet unproved. It has been shown by Horsley and others, especially since recent wars, that the injury inflicted by a projectile passing through the brain is not accurately represented by the track of the bullet. The latter has an explosive action, and this gives rise to widespread injury which is more or less in proportion to the velocity of the projectile. The injury inflicted by a bullet passing through the brain is not the same as that resulting, for example, from excision of a certain cortical area. By a rapidly moving bullet, as just stated, the brain is somewhat injured, not destroyed, to a certain extent outside the course of the projectile. Such an injury does not involve the question of the reuniting of nerve fibers or the regeneration of nerve cells. It simply involves a reparative process in the immediate neighborhood of the injury, such as occurs after traumatism or embolism or hemorrhage. There is only a partial injury to the brain tissue, and it is usually followed by at least partial repair. It is not necessary to invoke the theory of the re-education of latent nerve cells or centers in the adult.

DR. J. H. MCBRIDE, Los Angeles, Cal.—About thirty years ago there was reported in London the case of a right-handed child that suddenly became aphasic, indicating a lesion in the left motor speech center. Within a year, speech was entirely recovered. Two years later there was another attack of aphasia, which was permanent. The child died six months later, and two lesions were found in the brain, one involving the third left frontal convolution and the other the third right frontal. In 1890 there was admitted into the Milwaukee Hospital a man who was supposed to be suffering from chronic epilepsy. He stated that twenty-seven years before he had been shot in the eye. The man died, and at the autopsy the bullet was found under the left temporal bone. It had lodged in the second left temporal convolution and gradually gravitated to the point where it was found.

PROF. W. T. ECKLEY, Chicago—Speaking on the basis of the examination that Dr. H. E. Santee and I made, the anatomic side of the discussion of this valuable contribution will give a brief summary of the known anatomy and physiology of the temporo-occipital region, looking to the pathologic possibilities incident to disease or trauma. We shall consider the commissures, the association fibers, and the sensorial cortical centers, which latter receive impulses from corresponding peripheral regions, and give origin to audition, olfaction, gustation and vision.

The commissural fibers connect portions of opposite hemispheres, forming definite structures—the corpus callosum, the anterior commissure and the hippocampal commissure.

The corpus callosum connects both similar and dissimilar parts in all regions of the hemisphere except the olfactory bulbs and the antero-inferior portions of the temporal lobes. The anterior commissure, supplemental to the corpus callosum, connects the two olfactory lobes and portions of the temporal lobes. The hippocampal commissure connects the uncus, optic thalamus and hippocampus major of one side with similar structures of the opposite side.

Association fibers in general connect parts of the cortex on the same side of the hemisphere. Short association fibers connect convolution with convolution; long association fibers connect lobe to lobe. The long association fibers are the cingulum, fornix, uncinate fasciculus, superior longitudinal fasciculus, inferior longitudinal fasciculus, occipito-frontal fasciculus, and perpendicular fasciculus.

The cingulum is in the falciform gyrus and almost completely surrounds the corpus callosum. It associates the frontal lobe and uncus. The fornix connects the corpus albicans and thalamus with the uncus and hippocampus major. The uncinate fasciculus arches over the stem of the sylvian fissure, connecting the uncus with the frontal pole and orbital convolutions. Lesions in cingulum, fornix or uncinate fasciculus produce disturbances in smell, because they are connected with the rhinencephalon.

The superior longitudinal fasciculus, on the outer surface of the foot of the corona radiata, connects the frontal temporal and occipital lobe. It passes over the insular region and at the posterior end of the sylvian fissure bends around the putamen and passes to the temporal lobe. It sends numerour radiating fibers into the occipital lobe. This fasciculus associates the motor speech center with the visual and auditory memory centers. If it is destroyed, the patient can see and hear perfectly and recognize things seen and heard, but he has no power to express in words his visual and auditory memories.

The inferior longitudinal fasciculus extends along the whole length of the temporal and occipital lobes, uniting the auditory and visual memory centers. In the occipital lobe it is to the outer side of the optic radiations, from which it is to be distinguished by the greater coarseness of its fibers.

The fasciculus occipito-frontalis is between the cingulum and superior longitudinal fasciculus, extending from the cortex of the entire frontal lobe to the occipital lobe, where its fibers diverge, fan-like, and enter the descending and posterior horns of the lateral ventricle.

The perpendicular fasciculus extends from the inferior parietal convolution to the second and third temporal convolutions anteriorly; posteriorly, it joins the superior, middle and inferior occipital convolutions with the fusiform gyrus of the temporal lobe.

The auditory sensory center is in the transverse temporal gyri and third and fourth fifths of the superior temporal convolution. It is represented peripherally by the cochlea, and impulses of hearing reach the auditory sensory center over the cochlear path.

The auditory memory center is intimately associated (1) with the auditory sensory center, by short association fibers; (2) with the motor speech center, by the superior longitudinal fasciculus; (3) probably, with the naming center, through a group of association fibers.

The olfactory center is probably in the mucus. It is represented peripherally by the schneiderian membrane. Impulses of smell reach the uncus through the fibers of the olfactory tract, cingulum and uncinate fasciculus.

The gustatory center is probably in the cortex of the hippocampal convolution, posterior to the olfactory center. It is represented peripherally by the end organs of the glossopharyngeal and chorda tympani nerves. Impulses of taste reach the center through the medial fillet and internal capsule.

The visual sensory center is in the cuneus and lingual convolution, on the mesial surface of the hemisphere, and extends somewhat into the convex surface of the occipital lobe. Its peripheral representative is the retina, and impulses here originating reach the higher visual sensory center, in the cortex of the cuneus, via the optic nerve, tract and radiation. The visual sensory center is connected to the visual memory center by short association fibers.

The visual memory center is in the angular and occipital convolutions. It is associated with the visual sensory center by short association fibers, and with the motor speech center, in the central gyri and inferior frontal convolution, through the superior longitudinal fasciculus. Injury of the visual sensory center produces blindness. Injury of the visual memory center produces mind blindness. Destruction of the tract, associating the visual memory center and the motor speech center produces sensory aphasia.

Let us now analyze the sensorial cortical centers in the occipital and temporal lobes, with reference to destruction of (*a*) the sensory center; (*b*) the memory center; (*c*) the tract of association fibers connecting several memory centers with the motor speech center. If the visual sensory center is destroyed, there is blindness in the opposite eye. If the visual memory center is destroyed, vision remains, but the patient has no power to recognize through seeing. If the tract connecting the visual memory center with the motor speech center is destroyed, vision and recognition of things seen will be perfect, but the patient will be unable to express in words his visual memories. If the auditory sensory center is destroyed, there is loss of hearing in the ear of the opposite side. If the auditory memory center is destroyed, the patient hears, but there is failure of recognition, through hearing. If the tract connecting the auditory memory center with the motor speech center is destroyed, hearing and recognition of things heard will be perfect, but the patient will be unable to express in words the auditory memories. In the light of analogy there must be, linked to the olfactory and gustatory centers, corresponding olfactory and gustatory memory centers. If the olfactory sensory center is destroyed, there is loss of smell in the nose of the corresponding side. If the olfactory memory center is destroyed the patient smells, but can not recognize through smelling. If the tract connecting the olfactory memory center with the motor speech center is destroyed, smelling and recognition of things smelled will be perfect, but the patient will be unable to express in words his olfactory memories. If the gustatory sensory center is destroyed, there will be loss of taste. If the gustatory memory center is destroyed, the sense of taste is perfect, but the patient can not recognize things tasted. If the tract leading from the gustatory memory center to the motor speech center is destroyed, taste and recognition of things tasted will be perfect, but the patient will be unable to express in words his gustatory memories.

In the interesting clinical case under discussion, the patient could see and recognize things seen; hear and recognize things heard; smell and recognize things smelled; taste and recognize things tasted. Therefore, the respective sensory and memory centeres of vision, audition, olfaction and gustation were unimpaired. The patient, however, could not express in words, visual, auditory, olfactory and gustatory memories. Therefore, there must have been interruption in the long association fibers connecting the cortical memory centers of these special senses with the motor speech center; and the injury must have been to the radiating fibers in the occipital lobe where the superior longitudinal fasciculus turns forward into the temporal lobe, around the putamen. In view of the symptoms —visual, auditory, olfactory and gustatory aphasia—is not the easiest explanation of this group of symptoms to be found in the assumption of a common naming center, interposed somewhere between the motor speech center and the cortical memory centers previously mentioned?

DR. W. E. GAMBLE—The lesion producing the alexia is probably the subcortical injury in the left middle occipital convolution involving the inferior longitudinal fasciculus, and not the cortical lesion in the third and fourth temporal convolutions. I fail to see on what known or supposed physiologic basis Dr. Patrick assumed that the lesion in this case is higher up than Dr. Eckley has demonstrated, that is, involving the region of the angular gyrus. This region is held by Bastian and Gower to be the center for visual memories, while the later clinicopathologic work of Henschen leads him to the conclusion that the whole convex surface of the occipital lobe has this function. Wilbrand, Nothnagel and others believe that the whole occipital lobe, except where the center of vision resides, stores up visual memories. In my case the visual memories are intact, with the possible exception of alexia. In answer to Dr. Patrick's question: "How can your patient have optic atrophy and still see 20/20 with each eye?" At first thought such a statement would seem a paradox. However, by reference to the diagram of the field of vision (Fig. 2), it will be seen that his half fields are concentrically contracted for form to 50 degrees, which shows that a large part of the optic nerve (peripheral fibers) has lost its function. The maculopapillary bundle has remained intact, which accounts for the good central vision. I do not share in Dr. Patrick's difficulty of understanding how the patient had temporary hemiparesis and hemiplegia, especially confined to the right foot, in the lesion described. As I stated in my paper, the tracts passing from the occipital cortex to the internal capsule were more or less injured by the hemorrhage, not destroyed by the bullet, the internal capsule not having been injured.

A CASE OF PERFORATING WOUND OF BOTH CEREBRAL HEMISPHERES.*

W. S. LINDSAY, M.D.
TOPEKA, KAN.

Last November, while attending a meeting of our county medical society I was summoned, in company with Drs. McClintock and Bowen, to a hotel near by in which a guest of the house was said to have attempted suicide. We found a young man about 19 years of age writhing on the floor with a bloody wound on the right temple, the result of a revolver shot fired about five minutes previously.

The hemorrhage was not great, but to prevent its becoming greater we tried to keep the patient quiet till an ambulance should arrive. In this we were not entirely successful, for he succeeded in getting up. He seemed very reticent on being questioned, although he talked enough to show mental coherence. We discovered that he had on only one cuff, whereon the patient informed us distinctly that the missing cuff was in his overcoat pocket, where it was found. Thus within a few minutes after the wound was inflicted, full mental operation was apparent, the senses of sight and hearing were normal, comprehension of spoken language was complete and the ability to frame and express a correct reply unimpaired. There was also manifest co-ordinate movements.

Examination at the hospital an hour later showed what was in effect a perforating wound of the brain, for the bullet, which was from a 32-caliber revolver, was found outside the skull on the left side, nearly opposite the point of entrance, which was

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one inch and a half superior and one inch and a half anterior to the meatus auditorius on the right side.

Dr. Bowen dressed the wounds at Christ's Hospital, and the patient made an uneventful recovery, at no time showing signs of impairment of brain function, leaving the hospital on the fifteenth day seemingly as well as ever.

March 17, four months after the injury, I examined the patient and found that on leaving the hospital the patient began the study of telegraphy, that he now takes twenty-five words per minute, and expects to take a position with a railroad company. Examination for symptoms of sequelæ was entirely barren of results, except that I found an unusual redness of the face. This had been a characteristic before the wound, and was simply exaggerated afterward. There had been no head pains, no flushing of the face, no defect of any sense and no interference with ideation.

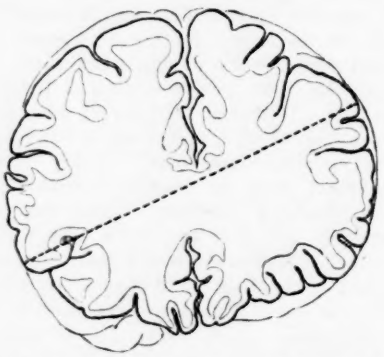

Fig. 1.—Dotted line shows line of wound through hemispheres.

By careful measurements I have prepared a section of a brain showing the track of the ball as nearly as may be. This, you will observe from the illustration, passes through the forebrain from a point in the anterior operculum on the right side to a point in the middle frontal gyrus on the left side, being about one inch higher at the point of exit.

Following this line of puncture we observe destruction of cortical cells of the third frontal convolution on right side, destruction of continuity of fibers of the fronto-cerebellar tract, which is composed of axones from the pyramidal cells of the prefrontal lobes whose course is downward and backward through the anterior

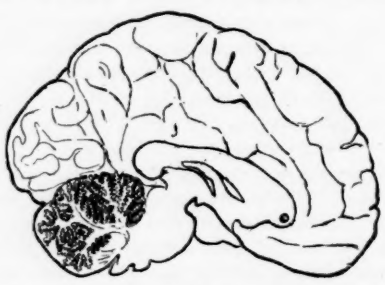

Fig. 2.—Dot shows where the ball passed through the anterior callosum.

part of the internal capsule and having connection through the nucleus of pontis with fibers from both cerebellar hemispheres; also association fibers representing the axones of collaterals of nerve cells connecting the cortical cells of the frontal lobe. We see also destruction of the anterior part of the corpus callosum, whereby the continuity of commissural fibers is broken; also a break in the fibers constituting the cingulum which connect the roots of the olfactories; also destruction of fibers connecting frontal and temporal lobes; thence a severing of nearly corresponding fibers in the left hemisphere.

From the investigations of Reil, Arnold, Meynert and others, we have come to recognize in the apparently homogeneous white matter of the brain fibers which constitute lines of communication in a variety of ways, till it has been said that each cell of the brain cortex as well as the basal ganglia is connected with every other cell by continuous or centiguous fibers which render this multiplex organ of ideation, motion and sensation a perfect entity. What, then, can be more important in brain functioning than the normal condition of association, commissural and inhibitory fibers primarily related to the temporal and frontal lobes of the cerebri?

We recognize the apparently profligate supply of many essential parts in nature, as seen in the pollen of our western cornfields, and in the elements of reproduction of animal life, and it has been argued that this same bounteous provision gives us such an abundance of cortical cells that many may be lost without appreciable loss of function. But can we apply this train of reasoning to a mass of cable lines extending quite across a section of the forebrain?

The surgical history of the War of the Rebellion shows a few cases of perforating wounds of the head with recovery, but so far as I can discover, nearly all have been pensioned, with a rating of total disability. These disabilities are, however, loss of vision, motor paralysis, eclampsia or vertigo, and none can be shown to be due to destruction of associating or commisural fibers.

In the case which I report, the lesion might reasonably be expected to cause defects in the association of concepts and ideas, from hindrance of functioning of fibers passing through the centrum ovale; paraphasia from lesion of the tract between the temporal and frontal lobes, defect of the sense of smell from lack of connection between olfactories, and some disturbance by reason of lesion of fronto-cerebellar tract.

I appreciate that extensive lesions in the white matter of the frontal lobes have occurred without producing symptoms, but from a theoretical standpoint, that such a lesion as I have described should occur without loss of function seems incomprehensible.

DISCUSSION.

DR. H. T. PERSHING, Denver—Did the wound on the left side show any considerable opening in the bone?

DR. LINDSAY—There was a larger opening at the point of exit.

DR. F. SAVARY PEARCE, Philadelphia—Dr. Lindsay's case reminds me of one which I saw with Dr. Laplace of Philadelphia this winter. The patient was a woman, who made an attempt to commit suicide by shooting herself in the temple, the bullet emerging on the opposite side of the skull, passing through both frontal lobes. The injury was not followed by loss of consciousness nor by any other untoward symptoms, and the woman made an uneventful recovery.

DR. H. G. BRAINARD, Los Angeles, Cal.—In discussing a case of this kind, we are handicapped unless the exact track of the bullet has been verified by an autopsy. It is well known that the projectile does not always follow a direct line. Furthermore, with such a rapidly moving body, it is impossible to estimate how much of the injury is due to the passing of the bullet, and how much to the resulting injury and hemorrhage.

DR. ALBERT E. STERNE, Indianapolis—I see a considerable number of injuries of this class, penetrating and otherwise, and I must confess, like Dr. Brainard, that some of the results are certainly surprising. We occasionally see cases of penetrating wounds of the skull where the appearances indicate that the bullet traversed directly from one opening to the other, and yet at autopsy we find that such was not the case.

The peculiar construction of the skull is apt to cause deflection of the bullet, but this does not occur when a solid weapon, like a sword or knife, is used. There are numerous instances on record of penetrating wounds of the skull having left very few symptoms. The records of the War Department are full of such cases, in which men who were shot through the head walked unassisted to the rear. I recall one case which created considerable excitement in Indiana, and which had great forensic importance. A man was accused of killing his wife by shooting her through the head, the course of the bullet being very similar to that in the case reported by Dr. Lindsay. The statement was made in court that after the woman was shot she got up, put her arm around her husband's neck and talked with him. Her dead body was subsequently found outside the house, on the threshold of the back door. I was called to testify in the case, and the question of brain localization played an important rôle. To this day, the guilt or innocence of the man is an unsettled question to many who followed the details of the case. The assertion was made by the state that the woman could not have walked nor talked after the receipt of the injury. In the case reported by Dr. Lindsay, the fact was lost sight of that the actual injury to the brain substance by a rapidly moving projectile is not nearly so great as where the passage of the projectile is slow. The velocity of the bullet is so great that it does not force the elastic brain tissue before it, but pushes it aside, and if there is no secondary suppuration or softening, and the hemorrhage is not excessive, the amount of damage may be comparatively slight. We sometimes see curious results after injury to the spinal cord, in connection with which we would be led to believe that the symptoms would be absolutely sure and infallible. A little over a month ago I saw a man who was shot through the left lung, two inches above and three inches to the outer side of the left nipple. The bullet passed through the lung and lodged to the right side of the spinal cord, just beneath the lateral process of the seventh dorsal vertebra, where I found it at the time of the operation. As the result of his injury, the man was completely paralyzed as to motion and sensation from that point down. The line of demarcation was absolute. There was total motor paralysis, total sensory paralysis, incontinence of the bowels and bladder, and not a single reflex could be elicited; no foot clonus, no cutaneous nor cremasteric reflex. I gave it as my opinion that the projectile, which was a 38-caliber bullet, had severed the spinal cord. At the operation we found the bullet in the spinal canal, but the cord itself was not interrupted; it was merely pushed to the left side by the bullet. The symptoms in this case, as compared with the actual lesion, were contrary to all my experience and teaching. The man was injured Feb. 7, 1903, operated on February 21, and died eight days later. At the autopsy, a section of the cord, including the bullet and the seventh, eighth and ninth spinous processes were removed, and they formed one of the exhibits in the case. The lungs were the seat of a double pneumonia. The coroner ordered the autopsy on my absolute refusal to grant a death certificate unless it was done. This case is merely alluded to, to illustrate that even in conditions of spinal injury we can not always definitely state the extent of damage done. In the brain, injuries are even less accurately determinable.

DR. W. S. LINDSAY—In my case, numerous fibers were destroyed, it seems, without producing apparent loss of function. In answer to Dr. Sterne, it is fair to say that the area of injury is not limited to the actual size of the projectile; the injury no doubt extends beyond the actual path of the bullet, and that fact makes it all the more remarkable that there was no loss of function in this case.

A New Method of Sharpening Knives.—A German experimenter named Bernhard, says the London *Lancet*, quoting the *Engineer*, has discovered that aluminum may be used for putting an edge on fine-cutting instruments. He found that when steel was rubbed on it the aluminum disintegrated with the formation of a powder of a somewhat greasy nature which clung to the steel with great tenacity and assisted in cutting away the hard surface of the metal.

A CLINICAL STUDY OF EPILEPSY.*

J. G. BILLER, M.D.
CHEROKEE, IOWA.

The light which science has thrown on this subject is so slight that to-day we are almost blindly groping in the dark, and those of us who come in contact with this fearful malady reach out our hands and grasp first one object then another, hoping that we are going to find the match whose tiny spark may finally illuminate the darkness about us. We can not help believing that with our increased knowledge of the secretions and excretions of the various glands of the body and the changed conditions of the blood from these and other sources, coupled with our better understanding of the nervous system, that we must to-day be in close proximity to the source of light.

I have no intention of wandering into the clouds of speculation and theory, but wish to speak of a few things that I think important in our present darkness, well aware that further light may relegate them to the rubbish pile as useless and unnecessary.

My first experience in epilepsy was in early boyhood; one of my playfellows, who was a strong, bright vigorous boy, began having peculiar spells that increased in frequency and violence till he became an object of fear to the children with whom he played, and was finally tossed on the shores of life a battered, hopeless, intellectual wreck. I remember asking the question then which I have so often asked myself in later years, "what makes him do that?"

It is well for us to continue asking this question and to search diligently for answers to it, for it is our knowledge of the cause or causes that enables us to benefit these unfortunates with our care and treatment. Our search for the cause may not be successful, then we are forced to return to our time-worn battlements and say that it is due to an easily excited or unstable condition of the cortical cells. "Why are these cells in this condition?" is our next question. When we are able to answer this, we will have arrived at a position from which we can observe the underlying causes of epilepsy, and begin to handle it in an intelligent and scientific manner.

Of course this instability may not always be due to the same thing, and to attempt to define or explain the various factors will simply be leading us into the wilderness of theory, where I do not care to wander just now; whatever may be at the bottom of this condition the fact remains that in the epileptic we have a cortical cell that is unstable and easily excited; so much does it resemble the cells of infancy in its response to irritation or stimulation, that we can rationally look on it as an immature cell, and by comparing the epileptic seizure with the convulsion of the infant we may observe facts that will be useful in treating the former. How well we know what things to look for in the ordinary infant; when it has a convulsion, some peripheral irritation or systemic poisoning is undoubtedly the cause; and the stomach, bowels, kidneys, prepuce, nose and ears are all examined. Failing here, we inquire as to exposure to heat, cold, or contagious or infectious disease, and somewhere among these we are almost sure to find the source of trouble. As it is here we find the exciting cause of convulsions in infants, so it is here we

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so often find it in the epileptic: for I believe that many cases of epilepsy are nothing more than the simple convulsions of infancy and childhood, where the cause has been overlooked or neglected till the epileptic habit has been formed.

It is for this reason that it is of such importance to early recognize the possibility of convulsions or peculiar spells (as they are so often called) of infants or young children being epileptic, and especially if there be a history of epilepsy in the family. Too often we allow these children to go without much attention, thinking it is nothing more than some habit or trick of childhood, and will pass off after a time. Frequently these cases are spoken of to the busy general practitioner when he is called to see some other member of the family, and he, occupied as he is with his principal patient, thoughtlessly says: "Oh, that will not amount to anything," or, "The child will outgrow it," and the case is neglected until we have a well-marked epilepsy on hand. I have seen enough of this to make me at once interested in any child that has spells. It is in these early cases that I have had what I consider good results from treatment. I am well aware that it may truthfully be said, that these may not be epileptics and probably would have recovered without treatment. It is hard to define just what is epilepsy and what is not; but if a child has a history of spells of unconsciousness, no matter however brief, that occur at intervals and has had an epileptic ancestor or relative, however remote, we have good ground for considering the case of epilepsy and treating it accordingly, instead of awaiting further developments, for by the time it has developed so that our diagnosis is assured it may be too late for the best results from treatment.

I probably learned as much from the first case of epilepsy I treated as from any case I ever had under my care. It was a boy 3 or 4 years old who made a perfect recovery after having taken large doses of potassium bromid for six months without benefit and I hope without injury. He was cured by three bottles of some kind of patent worm medicine, taken at the suggestion of a neighbor and very much against my advice. This child had no worms, but he did have a distended abdomen, constipated bowels, foul breath, a poor and irregular appetite. The worm medicine got rid of these conditions, and the epilepsy was cured.

A year or so after this somewhat unique postgraduate course in epilepsy, I saw a case very similar and, making use of the knowledge I had obtained in my previous humiliation, I prescribed the old-time worn remedy, pink root and senna, not because of its vermifuge qualities, but for its action on the intestinal tract, and much to my satisfaction, the child soon recovered from the epilepsy.

Since then I have had a number of cases of this kind, and the result of this treatment has, with one or two exceptions, been very gratifying. Do not misunderstand me and think I believe that these drugs are a cure for epilepsy, for I do not think so, but they have a favorable action on the digestive tract, toning it up and removing irritation caused by partially digested food and foul and poisonous gases, and this relieves the cortical cells of a source of annoyance.

In treating epilepsy we can not be too careful in the examinations of our patients and especially regarding their habits, history and peculiarity of their attacks and any relationship that may exist between their habits and attacks. The necessity of all this knowledge was once demonstrated to me by a young man who had acquired epilepsy about a year before I saw him. He had been treated with immense doses of bromid by various physicians, and I simply continued the bromids in the form of the strontium salt, which he had not had before. This did not benefit him, and he seemed to take special delight in returning week after week to tell me it was doing him no good. Each visit added a little to my knowledge of the case. I finally realized that there was a relationship between his meals and the epileptic attacks, which generally followed breakfast and dinner, but seldom came on after supper. I also found that he went to bed early, and that it was usually two or three hours after breakfast or dinner that he had the convulsions. When these things became clear to me, I stopped the bromids, advised staying in bed all the time and modified the diet. In a short time the convulsions ceased. After two months in bed he was allowed to get up and nine months later was still free from the epilepsy. We will occasionally meet these cases that surprise us by getting well, and just why we can not explain.

A year ago I saw a little girl, 11 years of age, who had always been well and strong in every way till about one year before I saw her, when she suddenly began having convulsions; not getting relief from their family physician, she fell into the hands of various quacks, who treated her for several months, then she was taken to a surgeon. By that time her convulsions were becoming so frequent that she was having them about once an hour. The skull was trephined over the left motor tract and the brain was freely explored with a long needle, nothing abnormal being discovered; the child remained in a stupor for some days after the operation, and when this passed off she was free from convulsions, but idiotic, had lost nearly all muscular power, and was unable to swallow. She was in this pitiable condition when I saw her two months after the operation. She was then put on syrup of hypophosphites, cod liver oil, internally and externally, milk, cream and meat broths. It was hard work to feed her, but it was done, although it took time and patience. Much to my surprise, in less than two months she was able to sit up and to walk some, and is now to all appearances perfectly well, both mentally and physically.

The cases that I have thus far been touching on are principally cases of epilepsy in which the habit has not become fixed. They were in the state of development and were checked by the various means employed, but we all know too well that it is only a comparative few of these cases that yield to our treatment, and the question is ever present, what we shall do for the remaining ones, those who are condemned to be victims of this terrible sickness. Even among these people there remains a large and fertile field for us to cultivate, and we are not justified in saying at any time because the case is incurable by our present methods, that nothing can be done. Much can be done to benefit these unfortunates; even if they can not be cured, they can be materially helped, and now comes the important point, how shall we treat them and what shall we do for them? I must again repeat myself, and say that we should make a most careful study of our patients and continue this study till we are perfectly familiar with them in every way, if such a thing is possible, knowing how they eat and sleep, all their peculiarities, and especially about their organs of excretion. After we know all these things and many more, we then can begin to treat them

rationally and with some hope of benefit, if we treat the patient and not the epilepsy. This treatment should aim at one thing in particular—to do everything to increase the vigor and health of the entire system, and in this connection trying to increase the vigor of the cortical cells, that the whole system may be brought to the highest point of perfection; the assimilation and elimination must be as nearly perfect as possible, food must be carefully selected. Each case is a study of itself; no regular line of diet can be laid down for all these people. What suits one may be a damage to another; the organs of elimination must be carefully observed; every effort possible should be made to prevent auto-intoxication. If this could be perfectly accomplished, I believe incurable epilepsy would be a thing of the past, but as we can not with our present knowledge accomplish this, we must do the best we can, and see that the organs of elimination that we are familiar with do their work properly. The bowels often are hard to handle, cathartics, enemas, diet, massage, all failing to keep them active. I have seen the kidneys go for even 48 hours without secreting urine just before an epileptic seizure. If we are helpless to prevent these conditions, we can not hope to control the epilepsy while the system is poisoned by retained fecal and urinary matter.

Much can be done by regular habits and exercise, baths, massage and fresh air; but I have found nothing so valuable as the high frequency current and the vibrator. The high frequency current seems to have a tonic effect that I have never seen from any other form of electricity, nor from anything. While it strengthens the general nervous system, it does so without exciting it; in fact, it often quiets it better than bromids or any of the sudorifics. It will frequently check that terrible restless nervousness that so often precedes an epileptic cycle, and will cause the patient to quiet down and go to sleep, thus aborting the attack entirely, or if not, relieving the general severity of the convulsions. It assists in the elimination and strengthens the muscles and nerves, thus relieving the constipation and indigestion, and keeps the kidneys and other glands up to their work. My experience with this treatment, not only in epilepsy but in other diseases, makes me believe that in it we have a most valuable and rational treatment, for many of the conditions of the epileptic, especially in children, where we can hope that natural development, thus encouraged and assisted, may materially improve the defective system.

It might be well here to notice the bromid treatment of epilepsy. The majority of authorities on this subject speak of it as the sheet anchor of our treatment and advise the increasing of the dose until desired results are obtained, and then a long continuation of the treatment. I am sorry to say that this advice has been followed almost literally by a great many who paid but little attention to any exceptions or any other directions that may be given. I have seen what I believe to be very disastrous results from this promiscuous prescribing of bromids, especially in young children. They have degenerated both mentally and physically so rapidly that it was impossible to attribute it to any thing but the large doses of this drug. While I can see how we may get good results in adults, and even in some children from them, I have yet to see any case of epilepsy that has been permanently benefited by this treatment. I have seen many cases where the attacks were diminished and even interrupted for a considerable period, but they have always returned and the patient has been in a worse condition than at first. I am not prepared to say, neither do I think, that the whole bromid business is irrational and wrong; but I do think that in a large proportion of cases it is used irrationally and without much consideration of the manner in which it acts. If we can by the use of these salts numb or stupefy the cortical cells for a time so as to get them to forget the convulsive habit and at the same time, by other means, remove from the system the cause of their irritation, we may do some good with the bromids; or if we can, while controlling the convulsions with them, carry on a line of treatment that will strengthen the general system and increase the resistance of the cortical cells, we may be justified in using them; or if we can establish the fact that they not only inhibit the cortical cell, but at the same time destroy some substance in the system that irritates these cells, then we could feel that they should be used in the liberal and careless manner in which they now so often are. My own experience would hardly uphold this last supposition; with my present ideas, if I were to administer bromids at all it would be only for a short time or while carefully observing the general condition of the patient, and stop them as soon as I saw signs of injury. Too often we are unable to see any indication of harm till serious damage has been done; for these reasons I do not like to give them in chronic cases, although the temptation to do so is often great. It is doubtful if any other drug gives us better results, for although many of those recommended for controlling the convulsions will do so for a time, the system seems to become accustomed to them and they lose their beneficial effect, and it is questionable if we have gained much by their use.

RELATIONSHIP OF EPILEPSY TO CHRONIC GASTRO-INTESTINAL DISEASE.*

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While the pathology of epilepsy is, as yet, an unwritten chapter, there are several inferences which appear to me fairly well grounded. One of these is the existence of an organic defect in the finer and as yet inscrutable ultimate structure of the corticospinal neurons. Concerning the nature of this defect we are quite as much in the dark, but not any more so than we are with reference to the cognate defect which underlies hysteria. The assumption in both cases of such a fundamental deviation from the average normal type of construction of the nervous system, of the existence of inherent tendencies which are exceptional rather than typical, and which are possibly always inherited, or at least acquired during the early developmental period, appears to me absolutely necessary to explain why apparently identical causes will produce the clinical manifestations of these neuroses in one case and fail to do so in a hundred others. Whatever may be the real character of this change or deviation from the normal type, it is permanent and must be organic in nature. It bestows on the individual the liability to have epilepsy. He has, so to speak, potential epilepsy. Whether he ever has the manifest symptoms or not will depend on a variety of circumstances. Perhaps in one

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group of cases the psychical, sensory or motor instability, incident to this underlying organic basis, may be sufficiently strong to give rise to an evolution of the active disease, spontaneous in character. This, however, may well be doubted. The spontaneity is probably only apparent. Intrinsic or environmental conditions may easily furnish unrecognizable though efficient causes. In other cases the so-called exciting cause is sufficiently obvious—a traumatism, an emotional shock, an acute illness, a failure of elimination, etc. These are, however, the common incidents of life and are only efficient exciting causes of epilepsy in the presence of something entirely exceptional in the individual, namely, the organic basis already assumed.

It is perhaps idle, in the existing state of our knowledge, to speculate on the nature of these variations from the usual or normal type of the nervous system. In using the term organic to designate them, it is not intended, of course, to convey the idea that they are demonstrable by our present means of research. The term, owing to its traditional associations, is even objectionable, but I have made a requisition on my vocabulary in vain for a substitute which would be at all adequate. In some sense these conditions which form the underlying permanent basis of such states as epilepsy and hysteria must be anatomic in their nature. That we are unable to determine their nature, or even demonstrate their existence, is simply a question of the limitations of our knowledge at the present time, or possibly for all time to come. A proper conception of this anatomic basis, however, should not have to wait on its histologic demonstration. Our general knowledge of pathology and the relation of structure to function would seem to point with sufficient logical force to the anatomic character of this underlying condition. A proper view of these conditions is important, if for no other reason than to throw a little restraint on harmfully aggressive and irrationally meddlesome therapeutics.

The other most important factor is that of irritation or excitation already referred to, and which may be of the most diverse character. It is with special reference to one of these groups of this causal condition, viz., those connected with the digestive organs, that this paper has been written. The cases of epilepsy, the study of which forms the basis of this paper, have been made the objects of more or less critical study with reference to digestion, metabolism, etc., and in many instances the relationship of the epileptic phenomena to these various disturbances has been shown to be of the closest character; so close, in fact, as to appear to fully justify the appellation of not only an efficient but an essential exciting cause. On the other hand, I am bound to say that in still other cases, at least superficially indistinguishable in type, no substantial results have been obtained. There must, of course, be radical and essential differences in these two groups of cases. It would seem to lie in one or both of two directions—either a difference in the grade or severity of the assumed organic or anatomic basis, which constitutes the potential epileptic state, or in the co-existence of other recurrent exciting causes, concerning the nature and identity of which we remain entirely ignorant.

There is, however, still another group of cases in which the efficacy of a removal of these exciting causes can not be adequately tested because of their remarkable intractability to treatment. Some of these cases are probably explained by lack of control with reference to diet, hygiene, etc.; but after making due allowance there remains a small group of such cases in which I have been forced to the conclusion that there is in some way a reversal of the relationship above indicated. In other words, the intractable nature of the disease of the digestive organs is in part at least due to perverted innervation. Whether or not there is an instability of the neural mechanism which presides over the musculature and secreting functions of the digestive organs, I am unable to say. The existence of such an influence would not be at all incredible. We know that the psychosensorial areas of the brain are involved as well as the motor, and the sympathetic, which is really subordinate to the cerebrospinal axis, or rather a subordinate part of it, may easily be implicated. Moreover, both the stomach and the intestines are in part supplied directly from the cerebrospinal system by the vagus. I do not now have reference to anything in the nature of a convulsive phenomenon, although this question might well be raised. I refer rather to a disturbance of what might be called the tonus of the neuromuscular mechanism of the digestive apparatus during the interparoxysmal periods. It finds its analogue in the weakening of the inhibitory control of the psychomotorial functions during the same period. If this condition can be assumed in the digestive tract, it furnishes a ready explanation of the clinical facts just cited. Motility is quite as essential to normal digestive function as digestive fluids, and if food stasis occurs, there exists a perfectly obvious source of toxemia, from gastrointestinal absorption. In addition, however, to the results of impaired motility, we should consider morbid variations in the character of the digestive fluid from the same causes. We have more direct evidence of such phenomena in neurotic patients than we have of such disturbances of motility as those above referred to. In the stomach, the secretions of which are most easily studied, we know that such patients show remarkable variations in the character of secretions, e. g., hyperchlorhydria at one time, and possibly achlorhydria at another. It is perfectly certain that such variations can not be due to structural alterations in the oxyntic glands. Their explanation must be assigned to the nervous mechanism of secretion; and it is more than probable that many of the bizarre gastric phenomena so often seen in epileptics, at least in my own experience, has a similar origin. The disturbances of motility and secretion which are so easily demonstrable, and so frequently observed in the stomach have, it is fair to assume, their analogies in the functions of the liver, especially its influence on metabolism, intestinal toxins and intestinal absorption.

I am firmly convinced from my own experience with these cases that in dealing with their digestive disorders, we must consider them in relation to the underlying defect of the nervous system, which has a distinctly sinister influence, and has at times been what seemed to me the one insurmountable obstacle standing in the way of at least some amelioration of the case. The following is a brief outline of such a case:

Mrs. K., aged 27. Referred to me March 27, 1899. The epileptic seizures had been recurring for about nine years every three or four weeks. Prior to that her health had been considered good, although she had evidently always been a marked neurotic, with somewhat belated development. Menstruation began past 15, and had always been scant, and her powers of endurance, mentally and physically, had never been good.

The epileptic seizure consisted first of a spasm of the muscles of deglutition, followed by general tonic and then clonic convulsions, with perfectly clear consciousness, and finally unconsciousness, passing into a deep sleep lasting three or four hours. Following this she would be decidedly ill from general nervous disturbance for three or four days when she would regain her ordinary type of health, which was really very far from good. There was, among other things, a history of gastro-intestinal disturbance, the symptoms comprising distress after eating, eructation of gas, constipation, and especially just before the epileptic period developed enormous gaseous distention of the entire abdomen, so extensive as to be the source of great distress.

Examination revealed chronic gastritis and colitis, and the patient was placed on suitable treatment with the expectation of decided benefit. I have every reason to believe that in the matter of diet and hygiene the patient's co-operation was intelligent and complete, and the treatment was the best that I could give her from every point of view, local and general. The character of the local morbid processes was such as would ordinarily yield to the line of treatment instituted, but in this case proved utterly rebellious. There was no substantial improvement in either the gastro-intestinal disease or the epilepsy during the time that the patient was under observation—which was perhaps two or three months. The putrefactive processes of the intestinal tract seemed entirely beyond control by either diet or medication combined with suitable local treatment, and the patient finally passed from observation unimproved.

Another case of an entirely different character was that of a boy about 15 years of age whom I first saw 5 years ago. There was a history of irregular nocturnal attacks of grand mal closely associated with exacerbations of a chronic stomach disease. In this case an apparent cure of epilepsy followed a comparatively brief course of treatment. I heard from the patient at intervals through his physician, and he remained well for over three years. Owing to the death of the physician, who lived some distance away in an adjacent city, I lost track of the case. My record might have shown permanent cure, and three years would apparently have justified the record had the patient not been brought to my office within the last year by another physician with a recurrence of the epilepsy after about four years of complete freedom from attacks. Apparently other causes were operative, as nothing more than marked improvement has been secured, although bromids were given during the last course of treatment, but not during the first.

Many cases could be recited showing varying degrees of improvement for varying lengths of time, clearly as the result of suitable treatment of the digestive diseases without bromid or other sedative medication. It will scarcely be proper to discuss in detail the local and general measures directed toward the gastrointestinal diseases. This belongs to another section, at least so far as the severer types of disease are concerned. The importance of giving proper attention to the digestive organs in general is fully recognized by every physician, but is emphasized by facts such as I have presented. It would appear desirable, however, to give more attention to an exact diagnosis of the morbid states of the gastrointestinal tract. Unless the physician is prepared to carry out the technical methods of diagnosis, as well as of treatment where this is indicated, the services of the specialist should be invoked for this purpose, if it is desired to do all that can be done for this group of cases.

I think there is no doubt that this line of treatment is of great value in cases of epilepsy associated with either obvious or latent gastrointestinal disease; and it should be remembered that there are many cases without obvious symptoms. I have not infrequently found large amounts of semi fluid débris in the fasting stomach where all stomach symptoms were denied. This forms, both in those which are latent and in those with manifest symptoms, an excellent culture medium, and is usually, in fact, a rank growth of a mixed infection. Bacterial toxins are necessarily formed in large quantities and absorbed in the circulation. The infected culture fluid also passes on into the intestines and intensifies the infection there. We must also consider the local irritative effect of these morbid constituents on the terminal vagosympathetic filaments of the gastric mucosa. Such reflex phenomena may well be disturbing factors in cases with marked instability of the nervous system.

There are doubtless other ways in which disturbance of the digestive tract may directly or indirectly exert an unfavorable influence on the frequence and severity of epileptic attacks. Enough has been said, however, to indicate the relationship of these disturbances to epilepsy, and I will not occupy more time in its discussion.

ECHINOCOCCUS CYST OF THE LIVER,

WITH REPORT OF A CASE WITH OPERATION AND RECOVERY.

BAYARD HOLMES, M.D.
CHICAGO.

There are two forms of hydatid cyst which show themselves in the human liver. The more common one is the *Echinococcus cysticus;* the rare one is the *Echinococcus alveolaris.* The life history of the *Echinococcus cysticus* has been very fully studied by Leuckart, and further studies may be consulted in Bulletin 19 of the Bureau of Animal Industries of the United States Department of Agriculture, published in 1898.

LIFE HISTORY OF THE PARASITE.

The position of the echinococcus cyst in the life history of the animal is extremely interesting. A tapeworm (Fig. 1) only 1.5 to 3.0 mm. long, which infests the intestinal tract of the dog and other canidæ, deposits its eggs by millions with the excreta. By natural processes the eggs are washed out of the excreta and fall on vegetation, which sooner or later becomes the food of man or other intermediary host, mostly the herbivora. In the intestinal tract of the host a few of the eggs are so acted on by the contents of the stomach or intestines that the shell falls off and the embryos gain access to the circulating juices of the body. Either actively or passively they are carried through the portal circulation and reach the finer capillaries of the liver. Here they develop into enormous cysts, which by a complex system of budding (Fig 2) become multiple embryos. On account of the presence of the cysts, the intermediary host suffers in health and strength, and is, therefore, more easily overcome and devoured by the primary host, the dog or other canidæ. The dog consumes the infected liver; the embryos are set free and attach themselves to the lining membrane of the intestine by the hooklets with which they are provided. Here they become messmates and perhaps parasites of the dog, and complete the circle of their existence by a bisexual development and the discharge of millions of eggs in the excreta.

GEOGRAPHICAL DISTRIBUTION.

The geographical distribution of echinococcus is extremely interesting. It is a common affection of dogs and men in Iceland, some parts of Australia, and in the Provinces of Mecklenburg and Pomerania. In the

neighborhood of Greifswald 68 per cent. of the cattle, 51 per cent. of the sheep, and 5 per cent. of the hogs are, according to Piper, afflicted with the echinococcus disease. In France, England, and other European countries; in Algiers and Egypt, the echinococcus is occasionally observed (Fig 3). In America only one infected dog has ever been found. Some few imported cases have been recognized in men, and a few so-called sporadic cases. In northern Michigan, Minnesota, the

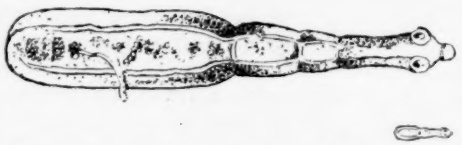

Fig. 1.—The tapeworm of the dog, one-half natural size and magnified.

large cities, and in the Province of Manitoba, the disease has been recognized in immigrants from Iceland, Mecklenburg and other European countries. Fifty-nine cases have been reported from New York, 56 from Manitoba, 24 from Pennsylvania, 13 from Maine, 9 from Ohio, something like 250 in all.

CLINICAL HISTORY.

More than half of all echinococcus cysts are found in the liver. They are usually single, and more often

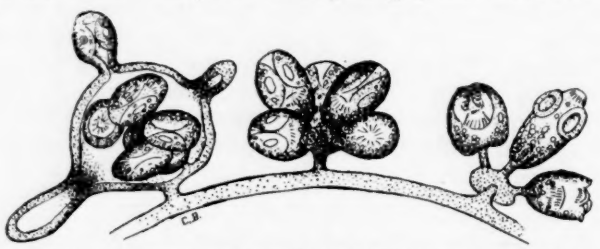

Fig. 2.—Different methods of budding (from Leuckart).

appear in women than in men. They usually occur between the ages of 20 and 40, though children and those of advanced years occasionally suffer. In the liver the cysts are more often in the right lobe than elsewhere. The form of the liver is changed to correspond with the location of the cyst, with its size, and the rapidity of its growth. The position of the cyst may

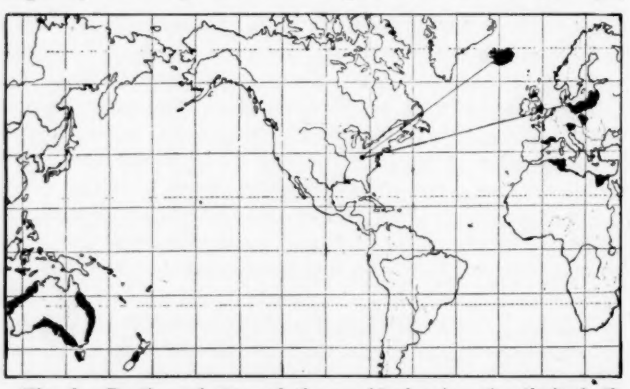

Fig. 3.—Portion of map of the world showing the limited distribution of *E. cysticus*.

sometimes be recognized by the bulging of the liver, either toward the diaphragm, downward into the abdomen, or in some other direction. Rarely the cyst may obstruct the biliary passages, and thus produce jaundice or partial jaundice; sometimes it produces pressure on the vena cava, sometimes on the portal vein and sometimes on the blood supply of the liver itself, producing gangrene. As a result of pressure atrophy, the cyst advances in one direction or another, and occasionally opens into the general peritoneal cavity, or some viscus, into the pleural cavity, into the pericardium, and even into the pelvis of the kidney. Rarest of all, it breaks through the skin of the abdominal wall.

Traumatism may result in early rupture of the cyst, and this again in death. At other times the same accident may bring about the recovery of the patient and the cure of the disease.

Suppuration sometimes takes place in the cyst and produces abscess of the liver. The cyst frequently dies, and its contents, being sterile, undergo the ordinary changes which are to be found under like conditions in cysts of other origin. There are no complications which occur in abscess of the liver which may not occur in echinococcus cyst.

SYMPTOMS AND DIAGNOSIS.

The symptoms of hydatid cyst of the liver are so indistinct that the tumor is frequently the first suggestion of the disease. Cysts as large as the fist are often latent and unsuspected. There are no abnormalities which can be recognized in the urine. The absorption of toxic elements occasionally gives rise to urticaria and digestive disorders, especially to a repulsion for meat and fatty foods. This is sometimes so severe as to produce vomiting or diarrhea. Psychoses of various forms often show themselves in the course of echinococcus disease, but the only one which is frequent enough to be of diagnostic significance is the urticaria. The gastric disorders may be either psychic in their origin, or they may be due to interference with the biliary secretion, or to the movement of food in the duodenum by pressure.

The patient usually complains of fulness and heaviness and sometimes of pain and pressure in the region of the liver. Jaundice occasionally shows itself in the mild form, and the stools are interruptedly clay-colored and stained with bile. The liver, as a whole, is somewhat enlarged, and the location of the tumor may give an irregularity suggestive of abscess or carcinoma. The hydatid thrill which has long been recognized is not often observed even in the presence of large hydatid tumors, and it is sometimes present when the tumor is located in the omentum, mesentery or pancreas. Abscess of the liver also occasionally presents the thrill. This test is made by laying the left hand over the tumor and lightly tapping the opposite side of the tumor with the fingers of the right hand, the fingers being retained quietly in position for a few minutes after the tap is made. A peculiar vibration is felt somewhat resembling the vibration of a violin under a very low tone. The examination of the blood is not significant. There is a mild anemia, which progresses with the continuance of the disease and is increased by interference with the biliary or digestive function. Only a small proportion of cases of hydatid are diagnosed before the autopsy.

NARRATION OF A CASE.

In my own practice I have seen three hydatids. Two were on the postmortem table at Cook County Hospital; one in an Icelander, and one in a German of unknown nativity. Both were hydatids of the liver and both were unrecognized before death. The third case is one in which the diagnosis is perhaps a little obscure. The conditions found at the operation would indicate that the hydatid was dead and sterile, and was undergoing a degenerative change. The history of the case was care-

fully written before the operation, and is of sufficient interest to be reproduced:

Painful affection of the hips, extending over two years, in an American girl of German parentage; appearance of a tumor or enlargement of the liver; under observation for four months; exploratory laparotomy; removal of a dead cyst and evacuation of a large sterile cyst; recovery.

Previous History.—Nov. 28, 1902, Miss D., 20 years old, born and reared in northern Illinois, was placed in my charge by Dr. Robert H. Babcock. She gave the following history: When a child she was very ill a number of times with the croup, and she also believes that she had measles; her girlhood was generally healthy, and she was of vigorous bodily habit. Twice she has had a condition which was diagnosed la grippe; once in 1893, and again in February, 1902. This last time she was very sick for about ten days. During this attack an eruption appeared on her shoulders, hips and knees, which faded out during early convalescence (urticaria?). She has suffered acute tonsillitis once, and last winter she had a so-called facial eczema which ran a course of about five weeks (urticaria?). Three years ago and without apparent cause, she suffered from nervous prostration. A few years ago, when run down in health, she had a few fainting spells that lasted only a few minutes each, and she insists that she was not hysterical at the time. She suffered for several years with headaches, which disappeared on wearing suitable glasses. She has never at any time had chills or fever. At thirteen she began to menstruate, but this function has not always been regular, and when irregular has been too early. For the last year menstruation has been regular. In October she menstruated a week late, and after that time she did not menstruate until the first week of March following her operation. Her menstruation is normal, with no great amount of hemorrhage, no pain or psychic disturbance, and she does not go to bed.

Family History.—Her family history is splendid. Her parents were German born; her father died from an overdose of morphin; her mother, 56 years old, is in good health. She has three perfectly developed brothers, and there have been no deaths among the children in the family. No close or distant relatives have died from tuberculosis or cancer.

When a child she played with a little girl suffering from a suppurating middle ear, but she does not remember having lived in the house or associated with any one who had consumption or a running sore. She never played with a dog or had a pet except once when a girl. It was a white, shaggy poodle, and she had it for not more than a year or a year and a half. The house in which she has lived most of her life is isolated and not overhung by trees. Her room was on the second floor, with two south and one west windows. The water supply of the house was a well of very hard water. While away at school she was in a pleasant room, abundantly lighted and supplied with water from a well. The school was situated on high and well-drained land.

History of the Disease.—Four or five years ago, about 1898, she began to have pain in the left hip; this pain did not make her limp. She consulted Dr. John C. David, Sandwich, Ill., who treated her for a year and then took her to Dr. George F. Shears, Chicago, who considered the trouble due to some disturbance in the pelvic circulation. In the spring of 1900 she made a tour of several months in Europe. She stopped at Bremen, Einbeck, Hanover, Frankfort, Strassburg, Lindau and Berlin. While in Germany she often walked three or four miles a day, but had no pain in her hip. She sometimes had pains radiating from the knee to the ankle and up around her back. She returned from Europe in the fall of 1900 feeling quite well, and had no further trouble until the spring of 1901, when the pain in her hip returned very suddenly one afternoon. Rubbing the hip and leg with alcohol seemed to relieve her suffering, but in two or three weeks the pain had extended into the knee and ankle and had become so contant and severe that she called Dr. L. L. Culver, Sandwich, who put her in the care of Dr. A. J. Ochsner early in September. Dr. Ochsner diagnosed tuberculosis of the left hip, and put her to bed at the Augustana Hospital with extension on the left leg. At the end of a week she began to suffer severe pain in her right hip, and extension was placed on this leg also. She remained in the Augustana Hospital for four weeks with extension on both legs. She was then removed to her home and the extension was continued six weeks longer. The extension was then removed from both legs and she was kept in bed for a month. After some preliminary treatment a splint was applied to the left leg and she began to walk with crutches. The extension and the rest in bed had relieved the pain in the hips, and when she began to walk she complained of nothing except weakness in both hips.

In February, 1902, she had an attack of la grippe, with urticaria and a slow convalescence, after which she abandoned her crutches and began to walk with a cane. In July, 1902, she again had pain in the left hip, which was greatly relieved by rubbing the leg with alcohol. On admission to the hospital she had occasional slight pains around the left hip, which she said were not deep. She had had no pain in the right hip since the extension was taken off. She walked gracefully and without limping.

About the middle of September, 1902, she returned to her school at Naperville, Ill. She felt quite well and gained ten pounds in weight during the five or six weeks she was there. Late in October, however, she noticed a swelling on the right side of the abdomen above the umbilicus, which seemed to her to increase slowly and regularly in size and outline. While taking deep-breathing exercises she noticed considerable pain in the region of the liver. For two or three months previously she remembers that she had difficulty in digesting potatoes and other vegetables, and was constantly distressed after eating by the fermentation of her food and the formation of gas in her stomach. The very sight of meat and potatoes, white bread and ordinary articles of diet, disgusted her, but she enjoyed thin soups, fruit, candy and ice cream. She was inclined to be constipated, but after she had eaten and had eructated gas from her stomach her bowels would move very loose and watery. For a few days in October she remembers that her feet were swollen early in the morning. During the months of October and November she had pain over the region of the gall bladder and liver and in the muscles of the back. This pain radiated to a spot in the neighborhood of the fourth right rib behind, sometimes rising into the shoulder and extending to the left shoulder when lying down. Late in October, 1902, she consulted Dr. Culver, Sandwich, who made out a great enlargement of the liver, but she nevertheless returned to school. After this she became slightly jaundiced and was greatly depressed in spirit. November 24 she consulted Dr. Robert H. Babcock, who placed her in my care.

Examination.—The patient is found to be a young woman of perfect and beautiful development, with dark brown hair and dark gray eyes. Her skin and conjunctivæ are of a yellowish color, which is especially noticeable in the morning. She is five feet five inches tall, and weighs 120 pounds. She is well nourished; the skin is moist, and there is a slight edema of the lower extremities. The cubital and axillary lymph glands are not recognizable, but there are a few palpable lymph glands in the neck. The examination of the eyes, nose, mouth and ears reveals no abnormalities. The right lung extends downward to the upper border of the fourth rib in the mammary line, the fifth rib in the axillary line, and the seventh rib behind. The left lung extends to the lower border of the third rib to the left of the sternum, the sixth rib in the axillary line, and the ninth rib behind. Over this area the respiratory and vocal sounds are normal, and there are no evidences of consolidation, effusion or disease.

Cardiac dulness begins in the fourth interspace about three-quarters of an inch to the left of the mammary line; there is no cardiac dulness to the right of the sternum. It extends to the lower border of the second rib on the left of the sternum, to the upper border of the third rib in the mammary line. The apex beat is in the fourth interspace just external to the nipple; both tones are loud and distinct. Over the base of the heart the second tone is markedly accentuated.

The area of relative dulness of the liver begins in the third interspace in the mammary line, and absolute flatness begins at the lower border of the fourth rib in the mammary line, at the lower border of the fifth rib in the axillary line, and the lower border of the seventh rib behind. The edge of the liver is palpable below the costal arch and extends as low on the right side in the mammary line as the level of the umbilicus. It is just above the umbilicus in the median line, and extends across the abdomen to the level of the tenth costal cartilage. The anterior surface of the liver is smooth and uniform, dense and unyielding to pressure, and without fluctuation or any marked irregularity. The edge is distinct and round, and the notch of the liver is distinctly palpable. At a subsequent examination a few days later a distinct, irregular tumor was recognized and the accompanying sketches were made to represent it. (Figs. 4 and 5.)

The gall bladder, unless the tumor above is the gall bladder, is not palpable. The left lobe of the liver extends as far as the left axillary line and as high as the sixth rib; it seems to completely fill the left hypochondriac region. The spleen is not palpable as a separate mass to the left of the liver. No fremitus or thrill can be felt on palpation anywhere over the surface of the liver, nor can any friction sound be detected on auscultation. There is a marked bulging above the umbilicus and a little to the left of the middle line. There is no tenderness over the liver on moderate pressure; no enlargement of the veins of the abdomen or groin; no enlarged lymph glands about the umbilicus. The abdomen measures 31 inches at the ensiform cartilage; 30½ inches at the umbilicus, and midway between these points, over the most prominent

Fig. 4.—Showing outline of tumor on the right side of abdomen as sketched before operation.

protrusion of the tumor, 30¼ inches. The distance from the ensiform cartilage to the umbilicus is eight inches.

The area of stomach resonance extended downward to the level of the umbilicus, and toward the left to the border of the tenth rib, about two inches lower than the palpable edge of the left lobe of the liver. The stomach contents were not examined. The right kidney was not palpable, and only at times could a suggestion of the lower pole of the left kidney be made out. There was no tenderness over the appendix or any other part of the abdomen.

The examination of the pelvis revealed a perfectly normal virgin sexual apparatus, and cystoscopy showed a perfectly normal bladder. The veins of the legs were not enlarged; there were no hemorrhoids; the nails on the fingers and toes were unmarked by ridges, the evidence of malnutrition, and were perfectly smooth and pink. There was no disease of the skin or hair anywhere on the body.

When the patient entered the hospital November 26 her temperature was 98, at 10 o'clock in the morning, her pulse 100 and her respirations 24. An examination of a specimen of urine gave an acid reaction, a cloudy appearance, a straw color, a specific gravity of 1010, with no albumin, sugar or casts, and only a few squamous epithelial cells, a few leucocytes and an abundant deposit of crystals of oxalate of calcium. During the following week her temperature varied between 97.5 and 99.5, with no noticeable character in its fluctuation. The pulse was regular, even and varied between 72 and 88. Her respirations when recorded were in the neighborhood of 20.

A number of complete urinary analyses were made, but they revealed nothing significant. November 30 she passed 1,000 c.c. of urine in 24 hours, of a specific gravity of 1006, an acid reaction, a trace of albumin present, but no casts; total solids were 13.2 gm., and the urea 7 gm. in 24 hours. December 3 another specimen of urine was examined. It showed an acid reaction, but only .3 per cent. of urea. On this day the ureters were catheterized. The left ureter gave 7½ c.c. of urine in 30 minutes, which would amount to 360 c.c. in 24 hours, making the total quantity for the two ureters 720 c.c. The urine from the left ureter was acid; it contained .3 per cent. of urea, no casts, no epithelial cells or abnormal microscopic findings. Following this catheterization she passed 9 c.c. of urine from the bladder at 2:30 p. m. This urine is presumed to have come from the right ureter. The characteristics were the same as those above. At 3:30 p. m. she passed 25 c.c.; at 4:00 p. m. 50 c.c.; at 6:30 p. m. 90 c.c. Every specimen of urine passed after the catheterization was slightly bloody, and had a specific gravity of 1010.

The catheterization was made with the Lewis electric cystoscope, the bladder being distended with air. By some mistake the right catheter was passed into the left ureter, which made it impossible to go on with the operation and pass the left catheter into the right ureter. The cystoscope was therefore withdrawn, and as the demonstration of the competency of the kidneys was complete, no further effort was made at catheterization. The blood in the last specimens was doubtless from the slightly overdistended urethra.

Frequent examinations were made of the blood; on December 2 one count made by Dr. Adams showed 5,160,000 red corpuscles; 7,800 white corpuscles, and a Fleischl hemoglobin percentage of 75. This was almost identical with the first count of November 29. December 22 the red corpuscles and the hemoglobin remained the same, but the leucocytes numbered 12,000 to the cmm.

The enormous enlargement of the liver and the findings which are reported above were inconsistent with any probable diagnostic hypothesis which occurred to me. The afebrile course, the low leucocytosis, the lack of prostration or toxemia, spoke strongly against abscess of any kind, except possibly tuberculous abscess or abscess due to the typhoid bacillus. Any abscess which would give rise to so little disturbance must necessarily be very chronic, or else within a natural cavity of the body. The uniform enlargement of the liver would be unexplained by an empyema of the gall-bladder, neither would it be consistent with abscess of the liver itself, or even with the improbable echinococcus of the liver. The history of pain in the hips, giving rise to the erroneous diagnosis of hip-joint tuberculosis, might possibly indicate the origin of the tumor affecting the sacral nerve. These nerves probably arise from the second, third and fourth lumbar, and the second and third sacral nerves. The history of the case and the general appearance of the patient seemed to speak against the diagnosis of malignant disease, and there is nothing in the history which points strongly either to carcinoma or to sarcoma.

After writing out the above indication and feeling the uncertainty of the diagnosis, I thought it prudent to send the patient home and give her the advantage of a therauptic test for syphilis of the liver. She was accordingly put under the immediate care of Dr. Culver, Sandwich, and given an eighth of a grain of corrosive sublimate hypodermically every day for ten days, and twenty grains of the iodid of potassium in milk or beef tea three times a day. During her stay at home she maintained a temperature between 102 and 103 every evening except one, and this evening she was more miserable than at any other time. Her morning temperature was regularly subnormal.

On December 19 she returned to the hospital. The girth of the abdomen immediately over the tumor had diminished one and a half inches. The notch and irregular spot on the

edge of the liver had increased to the size of the fist, and was excessively tender. December 21 she was again carefully examined by me and Dr. Bertram Sippy, but no new points were brought out by our study together. He recommended an exploratory operation, probably for a suppurative cholecystitis. The leucocytes now numbered 12,000; the temperature remained permanently above normal; the urinary secretions showed an excessive amount of coloring matter, probably bile pigment, and a little albumin and peptones.

Operation.—The patient received the usual preparation for a laparotomy, and on the morning of December 22, with the assistance of my associates, Drs. Frank Blatchford, Edward T. Alford and Will H. Moore, I made the operation. The anes-

Fig. 5.—Sketch of abdomen showing the general configuration and outline of tumor.

thetic was nitrous oxid gas, followed by chloroform, and afterward, at 11:30, by ether, and was administered by Dr. D. H. Galloway. After the preparation of the skin of the abdomen, the abdominal wall was opened and the tumor discovered at 11:15. The protrusion which had been felt in the neighborhood of the umbilicus was found to be a hard, white, superficial tumor in the border of the liver near the fissure. Behind this tumor there was a large fluctuating tumor in the right lobe of the liver and an inch and a half or two inches from the smaller tumor. An incision was made in the larger

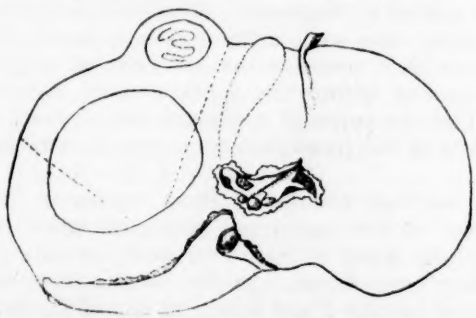

Fig. 6.—Diagram of section of liver showing lines of incision for removal of cysts.

tumor, and a clear, yellowish-green fluid poured out. The cyst seemed to hold about a quart of fluid. The finger was passed into the incision, and by means of several mattress sutures, passing from the outside of the liver to the inside of the tumor, a triangular piece of liver substance, containing the smaller tumor, was ligated off with catgut, and a segment of liver, three and a half inches or more on each triangular side, was removed. There was very little hemorrhage from the surface of the liver; the interior of the cyst was carefully sponged out; the whole cyst cavity and the denuded surfaces of the liver were covered with an iodoform gauze tampon, which was brought out of the upper corner of the wound, and after exploring the gall bladder and common duct the pancreas and the pylorus, the remainder of the abdominal wound was closed. The skin suture was complete at 12:20, and the operation lasted an hour and five minutes after the first incision was made.

Immediately after the operation the tumor was carefully examined, and the sketch (Fig. 6) of the relation of the tumor, the cyst and the gall bladder was made.

Examination of the Cyst.—The material removed from the cyst and the tumor were placed in the hands of Dr. H. Gideon Wells for examination, who made the following report: "The specific gravity of the fluid taken from the large cyst was not recorded. It was golden brown, slightly opaque and rich in bile pigment and albumin. It contained considerable detritus, a few red blood cells, a moderate amount of cholesterin crystals, but no echinococcus hooklets and no sugar.

"The wall of the large cyst when examined from within outward consisted of three layers. The first layer was old fibrous tissue, partially hyaline and partially degenerated, poor in nuclei, devoid of leucocytes, almost avascular and without a lining epithelium over its surface. The second layer consisted of a broad, richly vascular zone, consisting of a network of widely dilated capillaries with a few or no arterioles. The capillaries were separated by a homogeneous material, which for the most part was not nucleated. The character and distribution of the capillaries suggested that they were the original capillaries of the lobules of the liver. The intervening tissue had the disposition of liver cell cords. It is probable that either the liver cells themselves had undergone hyaline degeneration, or they had been substituted by connective tissue, which later suffered the same change. A few groups of well preserved liver cells and bile ducts occurred in this zone. The third layer consisted of a promiscuous mass of fibrous tissue, liver cells, bile ducts, and the vessels normal to the liver, but without lobular structure. Liver cells occurred in small groups and small cords. A good deal of young connective tissue, granulation tissue and bile ducts surrounded by concentric layers of connective tissue filled up the picture.

"The small cyst consisted of thick, lamellated and corrugated sheets of hyaline substance having the consistency of cartilage. Between the folds of these sheets was a white, amorphous, pulpy substance, which consisted principally of fat, calcium salts, cholesterin crystals and detritus. The cartilage-like substance did not give any albumin or sugar reaction. Microscopically the thick sheets appeared hyaline and lamellated. The capsule was thick, composed of adult fibrous tissue and surrounded by liver substance containing much increased amount of fibrous tissue. No hooklets were found in the cyst.

"In the liver tissue surrounding the cysts there was a great production of interlobular tissue, with much granulation tissue. The lobules were atrophied almost to one-half their normal extent. There was no pronounced growth of fibrous tissue within the limits of the lobules themselves. The bile ducts were surrounded by concentric layers of fibrous tissue. There was active congestion of the liver, with increase in the number of bile ducts, but no fatty degeneration or infiltration. The diagnosis was echinococcus cysts, with early surrounding cirrhosis of the liver."

Postoperative History.—After the patient was removed to her room she reacted promptly, and had the most trifling disturbance from the anesthetic and the most insignificant shock from the operation. Her temperature never rose above the most trifling reaction; she never had any albumin in the urine, and the quantity of urine rapidly increased. The bowels moved without disturbance, and the jaundice disappeared. The thick, loggy, old-aged look which she had before the operation, and the jaundice which was so evident in the scleræ and skin, quickly disappeared, and she took on a youthful rosy, healthy look, which caused everyone to exclaim. She had a moment's chloroform anesthesia when the deepest portion of the tampon was removed on the seventh day, but otherwise she was dressed without pain or discomfort, and the cavity closed and the wound healed in a remarkably short time. No urticaria followed the operation.

Since leaving the hospital on the last of January she has been active and in buoyant spirits. Her health and complexion were perfect in June, 1903, when last seen by me, and she has absolutely no evidence or hint of a return of the disease. She has menstruated regularly since the first week of March. In June, 1903, her waist measured 23½ inches and she weighed 122 pounds.

TREATMENT: PROPHYLACTIC AND SURGICAL.

The treatment of echinococcus cyst is a matter of little immediate importance to the American physician. All association with dogs, however, especially with imported dogs, should be looked on as not unattended by dangers. The presence of dogs in and about truck farms and gardens, about grocery stores and kitchens must be looked on as dangerous and filthy. America can hardly hope or expect to remain free from the echinococcus for any great length of time, and when the disease is once discovered it should be promptly reported and the source of the disease should be sought for.

Medical treatment is absolutely useless. The only surgical treatment is laparotomy, the opening and the evacuation of the cyst, and probably tamponade and drainage; but these details are matters which must be left entirely to the surgeon. No exploratory puncture, no tapping and washing out of the cyst, can be looked on with complacency.

THE PROPHYLAXIS OF PLAGUE.

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(*Concluded from page 147.*)

MARITIME COMMERCE IN ITS RELATION TO THE SPREAD OF PLAGUE.

Plague, like cholera, follows in the wake of commerce. For a long time many features connected with the transmission of plague by vessels were not understood. While it was easy to discern the relation existing between a vessel having cases of plague on board and others contracted from these on land, we were often at a loss to discover the origin of outbreaks occurring at seaports which could not be ascribed to vessels or their personnel. The various theories in vogue from time to time were a natural sequence. The careful observations of the past few years have been of greatest value in determining just what part the vessel, cargo and personnel play in the transmission of plague. Is it possible for the personnel of a vessel to bring the infection aboard, either in their persons or in their effects? Only a few instances have been cited where the personal effects of the personnel have been responsible for plague appearing on shipboard. Ruffer believes that a few cases are traceable to this cause. The dirty, filthy rags of the Indian pilgrim coming from Bombay and Calcutta were thought to be responsible for the outbreaks on shipboard, yet these were few and could not be traced directly to these as the cause *per se*. Kitasato mentions a box of clothing of a soldier who died of plague in Formosa sent to Kobe, and soon after opening it plague attacked some of those who had handled these articles.

It would perhaps further our understanding of this feature if a few details were indulged in which relate to one of the chief sources of infection to this country. Vessels in Hong Kong harbor, as a rule, lie at anchor some distance from shore, communication being held by steam launches, the native sampan and cargo boat. Very few of the trans-Pacific vessels ever touch at a dock. Nearly all these carry a full complement of Chinese for their crews. These are shipped in Hong Kong for the round trip and are changed on each return voyage. Only a few of the crew come from Hong Kong, the greater proportion being drawn from Canton and its immediate vicinity. As soon as a vessel arrives in Hong Kong a crew is discharged, the members return to their homes, and if any of these reship they return only a day or so before the vessel sails. These, together with the new members, constitute a fresh crew.

Early in 1899 cases of plague began to appear in several of these vessels, usually from three to five days after leaving Hong Kong. These were apprehended at the Japanese quarantines. The short time elapsing between the time of departure and the appearance of the cases pointed strongly to the fact that these were either pestis minor or pestis major in the incubative stage, and presumably the latter, as all attacked died. The possibility of the infection being brought on shipboard in their personal effects can not altogether be excluded, yet the weight of evidence leans further to the side of the person being the factor, rather than the effects.

While serving as quarantine officer at the port of San Francisco I soon became convinced that there was great danger from this source, and in response to persistent and urgent appeals, the surgeon-general finally detailed officers of the Marine-Hospital Service for duty at Hong Kong to make the inspections and to exercise a sanitary surveillance over all vessels destined for the United States. Since this inspection has been established, the effects of the crew and steerage passengers being disinfected, no case of plague has occurred on any of these vessels. Many cases of incipient fever, etc., have been excluded, and some of these have died soon after with plague. This would seem to indicate that the cases which had heretofore occurred on these same vessels were in reality suffering from plague on departure.

The Canadian vessels, for purposes and reasons best known to the officers of that company, have adopted a policy of inspection only, claiming in so doing that the restrictions imposed by the United States were worse than useless; that their system of inspection without disinfection was far better or "just as good." It almost seemed so until a case of plague was detected on the vessel's arrival at Nagasaki. Possibly this case was due to infection from some article taken on board, but it is also more than probable that on account of the short time elapsing before the appearance of disease (4½ days) that the personal inspection was at fault—a case of plague in the incubative stage was allowed to go on board.

The sanitary history of these vessels is quite instructive. Seven vessels had plague on board en route from Hong Kong to San Francisco; in only two did secondary cases occur. In five vessels cases occurred soon after leaving Hong Kong; in one of the two about 10 days after leaving port, in the other over 14 days. From a careful inquiry it seems to establish the fact that these cases occurring as soon as four days from port were in the incubative stage, whereas those developing after 10 to 14 days contracted the infection through some agency on shipboard.

CARGO.

Since the days of the Levantine Lazaretto, the cargoes of vessels have been regarded with suspicion, and a belief held that such were capable of transmitting contagion. Certain articles of cargo are no doubt the means of preserving and transmitting the contagion of

certain diseases, and are also capable of being infected, particularly so on shipboard. It has never been accurately determined how plague reached Bombay from Hong Hong. All the evidence points to an infected vessel. Certainly if a vessel can come from Bombay to Yokohama with plague-infected rats on board, or a vessel from Bombay arriving at Kelung, Formosa, with a case of plague, we would reason that it would be equally possible for infection to reach Bombay from Hong Kong.

From all information obtained, the cargo is not believed to be the principal means of its dissemination of plague. The cargo in most instances is free of infection at the time of placing on board, yet it may be infectible by agencies on board. There is a suspicion that certain food products from China may, either through their mode of preparation or storage, become infected with the plague bacillus, but these instances are rare. Cargoes of grain, particularly rice and of forage, may become infected by the same agencies. It is more than a probability that the disease was carried to Oporto, South Africa, New Caledonia and Calcutta in such cargoes. Kitasato's researches also appear to establish the fact that infected cotton shipped from Bombay to Osaka was the means of introducing plague in the latter place.

We can not, however, rest the case on the cargo alone as being the means of conveying plague, and must not be unmindful of the close relationship existing between the rodent and plague on land. The same will also apply to vessels. While certain classes of food products and other kinds of cargo may be infected with plague, I think all will agree that it is of minor consideration as compared to the dangers arising from plague infected rats on shipboard. These may become infected either by persons or their effects, or from infected cargo. On the other hand, they may become the means of infecting cargo. The steamship *Friary* arrived at Hull, England, about 80 days out from Montevideo. Two cases of fatal illness occurred en route and soon after departure; all were well on arrival. A few days after cargo was broken and begun to be discharged by the crew, when soon thereafter two became ill with symptoms of influenza, and were sent to the hospital. One of these died shortly after. About this time several mummified rats were discovered among the cargo. This, taken together with several other cases, led to a more careful examination, which demonstrated the cases were not influenza, but plague. The inquiry further developed that all the cases of plague had come from direct contact with the dead rats.

Another steamer arrived at Hamburg from Rosario, Brazil, where plague was prevailing. All were well during the voyage and on arrival. The quarantine inspection revealed several dead and sick rats. These were examined and found infected with plague. Another instance was an infection of the personnel by rats in the case of the steamship *Coptic,* which sailed from San Francisco for Asiatic ports in August, 1900, and 21 days later, just before arriving at Yokohama, a case of plague developed in a passenger. On clearing out the compartment two dead plague rats were found. Another steamship plying between the United States and Asiatic ports demonstrates the fact of rat infection perhaps in a more remarkable manner than any of the former.

A vessel left San Francisco early in the spring of 1901 for Asiatic ports, making the round trip in about four months; the vessel did not touch at any wharf, but discharged passengers and cargo well out in the stream. On her return voyage, a few days out from Honolulu, two deaths occurred between Honolulu and her home port. There being no physician aboard, nothing more definite than the master's statement could be obtained, but all pointed to plague. On discharge of the cargo no dead rats were found, and no information could be obtained regarding them from any member of the crew until finally the Chinese quartermaster admitted that dead rats were being found continually when the vessel lay alongside the dock in San Francisco, and were observed on several occasions on the outward voyage. Here was an instance where rats were dying as long as three months before any case occurred among the crew, notwithstanding these must have been in close proximity to the personnel. Other instances of the same character could be cited if it were deemed necessary.

I can not, therefore, bring myself to agree with the opinion of the British Plague Commission when it says: "There is no evidence that plague-infected rats have ever carried plague from one country to another, and that fumigation of holds of ships, in order to kill rats, is unnecessary and impracticable," or that there "is no confirmation of the suggestion that plague may be conveyed on board by embarkation of plague-infected rats."

It is indeed a fortunate circumstance that few of the vessels engaged in the trans-Pacific trade touch at any wharf in the Orient, and that passengers and cargo reach the vessels by boat. If it were otherwise it would be next to impossible to prevent these vessels from being infected on nearly every voyage.

Notwithstanding the present arrangement, the dissemination of plague has been very closely connected with some of these, and this is due more to their being infected with rats than to any other cause. Few rats, if any, get aboard these at Hong Kong, or at any other port, still these vessels contain numerous rats. It has been the custom since medical inspectors have been on duty at the Oriental ports to destroy the rats on board just after discharge of cargo by fumigation, but on the next voyage about the same number are on board. The question naturally arises, from whence do these rats come? The answer to this was the same from all, "American ports, principally San Francisco." The vessel is, therefore, subjected to a double danger from (*a*) cargo possibly infected, (*b*) and from infected rats.

With regard to the possibility of vessels becoming infected with rats at San Francisco, I may add my personal observations to that of the officers of vessels, whose answer to the query is quoted in the above. The wharves and water front are infested with rats in great numbers. The wharves are, as a rule, old, and of such construction as to be ideal vermin harbors.

These are some of the reasons explanatory of the way in which plague may be carried from place to place by means of vessels. A rat infection may exist comparatively for a long time before it is manifest, but just the same as on land. Places may become infected one after another by such vessels, and the circumstances attending its sanitary history be forgotten before the place awakes to the realization that it has plague.

MARITIME QUARANTINE.

On arrival of a vessel from an infected port great care should be exercised in making the examination, and a diligent inquiry should be instituted regarding all that is essential in determining the sanitary condition of the personnel, cargo and vessel. The sanitary authorities should be given wide latitude in their determination of the fitness or unfitness of a vessel to be passed

or to be held for treatment. The regulations for their guidance should be laid down on the broad principles of preventive medicine and not "line on line and precept on precept" of laboratory technic and unimportant details.

A few good rules are excellent, but rules enacted into law are still better, for regulations are not laws and can not have the force of law. The sanitary authorities should be experienced men, well qualified, and, above all, resourceful and possessing executive ability, and, moreover, endowed with a liberal amount of common sense. If these precepts are regarded, I feel sure that many of the hardships, both to commerce and the personnel of vessels, would be, in a great measure, removed, and the health interests of our country be better conserved.

In general, the same rules of procedure as suggested for cases on land are applicable for the treatment of a vessel, its cargo and personnel: The diagnosis, treatment of cases, surveillance of the contacts and the suspects, each with its appropriate treatment, and lastly, the disinfection of the vessel and cargo with the destruction of vermin.

The maritime quarantine stations at our larger ports are now equipped with all the requisite apparatus and conveniences for the treatment of such vessels with effectiveness and dispatch. A description of such stations will be unnecessary. One of the greatest safeguards to this country in preventing the introduction of plague is the present policy of the national government in detailing officers of the Public Health and Marine-Hospital Service for duty in the office of the consulates in the several Oriental ports. No one thing has been of greater protection than this, as it has prevented plague from being brought on board, and, moreover, practically relieved commerce of many of the vexatious restrictions which were necessary to impose before this was done.

With regard to the utility of the detailing of medical officers of the government in European ports, it is a question whether any great benefit would be derived from it. The conditions under which a sanitary supervision of vessels and their personnel would be maintained, would amount to but little. As a public health measure, it has practically not been appreciated by the trans-Atlantic traffic, and what little has been allowed to be done rests more on the fear of a quarantine on this side rather than being one of co-operation to prevent infectious diseases being brought to this country.

MEASURES TO BE ENFORCED IN A PLACE INFECTED WITH PLAGUE.

As before stated, the prompt recognition of the first cases is most essential. A single case, for example, coming from a vessel or another place on land, if promptly recognized, would give us but little concern. But such instances are rare. It is usually not recognized, and one is not apprised of the fact until weeks, or perhaps months, afterward.

Plague is believed to have been introduced into Hong Kong from Canton at least eight or nine months before the cases were of sufficient number to attract attention by the increased mortality from "fever." Therefore, when plague is recognized as plague the initial focus usually has been lost. Further, it may, and perhaps is, in the majority of instances, introduced by rats, rather than by persons and their effects. This was true of the first and second epidemics in the Hawaiian Islands. Rats were observed to be dying in and around the wharves many weeks before the first cases appeared among the Chinese and native population. The last epidemic was directly traced to infected rats.

All rat plagues are not followed in direct sequence by human cases. These may exist for a long time and not be infective. On the other hand, they may occur just slightly before or be synchronously with the plague in man. Davis says: "Plague, when it is introduced by persons, may be readily exterminated; when introduced by rats, followed by the infection of shore rats, it has come to stay."

During the first great outbreak in Hong Kong, in 1895, rats were found dead in many of the houses occupied by the European population; yet but few of these houses became infected. In contrast with this, in 1901 the majority of the Europeans affected with plague was evidently due to infected rats, as these were found in nearly every instance. Nearly as late as 1900 the medical officer of health says: "It is also interesting to record that, although over 400 Chinese coolies have been employed regularly in scavengering and cleansing the city and in the disinfection of infected premises, and that practically the whole of the 42,000 dead rats must have been handled by these men, yet only three cases of bubonic fever are known to have occurred among them during the year." "In 1901," he says, "there were about thirty men who made a business of collecting these rats, and I find that no less than seven of them died of bubonic fever during the period under report, while five others left the colony because they were sick, and two of these later are said to have died of this disease on the mainland."

In Kobe plague first made its appearance along the water front just close by the place where the cargo junks were moored. The first recorded case, however was not among those who lived on the boats, or, from what could be learned, had anything to do with the loading or unloading of vessels. It may have reached the shore through the agency of these junks, but, what is more probable, by a wharf at which vessels arriving from Kelung, Formosa, Hong Kong and Bombay discharged their cargoes. As soon as plague was recognized the work of its eradication was placed in the hands of Professor Kitasato, to whom all praise should be given for his great and noteworthy achievement in freeing Japan from plague.

Japan has so far been the only country which has successfully eradicated plague within a short time. The system adopted by the local and imperial authorities, while in some respects a rigorous one, has demonstrated that it is the only kind which is efficient. As Dr. Thompson has remarked: "There is no royal road to the prevention of plague." It means work, and hard work at that. Although much information has already been given in the published reports of the plague epidemics of Kobe and Osaka, there are many features and details of these which have not been set forth as clearly as they should be, and, therefore, are deemed of sufficient importance to describe some of these more fully, with the hope that a better understanding of the subject of plague prevention and eradication in Japan may be of service in our country, particularly in dealing with populations and conditions which may be similar.

In 1899 cases of plague were discovered among the population of Kobe which lived along the water front and contiguous to that part of the bay used by the cargo junks. Soon after the announcement of the discovery of the first cases, the imperial government sent a commission of experts headed by Professor Kitasato, which was empowered to co-operate with the local health au-

thorities, and to take such action and adopt such measures as were deemed necessary to eradicate the disease. Immediately on assuming charge, an inspecting corps of thirty-six physicians was organized to make a thorough inspection of the city. Volunteers were called for, and as many as 380 physicians were selected and appointed for this work. These were divided into the following classes:

1. Inspectors for districts, whose duties were to see all cases of illness, it mattered not what the nature might be, to view and obtain the history of all those dead and report the same to the district superintendent.

2. A corps of inspectors for performing autopsies and making bacteriologic examinations of all persons dead suspected of plague.

3. A corps of inspectors whose sole duties were to make bacteriologic examinations of rats.

4. A corps of physicians to administer the anti-plague serum and Haffkine-Shiga prophylactic.

5. A hospital and ambulance corps to look after those sick with plague and those detained in quarantine.

6. A disinfecting corps, organized much in the same manner as a volunteer fire department.

7. A corps of rat inspectors detailed from the police force.

The plague made considerable progress in Kobe before the authorities were able to cope with it. It was decided from the first that all houses in which plague had occurred, or those contiguous thereto, should be destroyed, but the authorities were immediately confronted with a law which prevented the destruction of buildings by fire. It took some few weeks before this law could be modified, and so valuable time was lost. However, as soon as the law became operative, the occupants, with their contents, were removed under sanitary conditions, the houses razed to the ground, carried out by piecemeal and burned. In view of the success which the Honolulu authorities had in the dealing with plague, it was believed that this drastic measure would be all that would be required for the control of the disease. This, however, did not suffice. It is believed the reason why it failed was simply because of the interval between the time that plague was first discovered and the law went into effect authorizing the destruction of buildings.

Soon thereafter plague appeared in the central parts of Kobe and the adjacent municipality of Hiogo. Many of the houses in which plague had occurred were disinfected and allowed to remain closed for ten days before the occupants were allowed to return. In several of these houses plague again broke out. Professor Kitasato was at a loss to explain just what was the reason, because a most thorough surface disinfection had been made of the houses and surroundings. When these cases occurred another sanitary inspection was made and several dead rats were found in the walls and over the ceilings of the houses. These rats were in various stages of decomposition, some evidently having been dead for several weeks. A bacteriologic examination was made of all these, and in a few only the plague bacillus was isolated. A vigorous crusade was then commenced against the rat. In fact, it was contemplated to destroy all the rats in these two cities, and a premium of 5 sen (2½ cents) was offered for every rat brought to the police department, either dead or alive. Arrangements were made that those bringing rats should report to the nearest police station, where a full history of each rat was obtained. This plan was not successful—only a few rats were brought by the population, or caught by those specially designated for this duty. The superintendent of police of Kobe hit on a plan which was one of the most successful features of the anti-rat campaign.

It appears that several years ago the government interdicted gambling in all its forms in Japan. Now it is a well-established fact that wherever you find the Tartar blood you will find also an inherent desire to play at games of chance. For all these years the Japanese nation had been interdicted from gambling, and they were practically in a state of hunger for hazard; so the superintendent of police suggested that in view of the fact that as the people were desirous to play at games of chance, in addition to the price of 5 sen offered for each rat, the lottery feature would be added, and a cash prize would be awarded at stated intervals. Each person who would bring in ten rats was entitled to a lottery ticket and the prizes offered were: 100 yen, first prize; 50 yen, second prize; 20 yen, third prize; 10 yen, fourth prize; 5 yen, fifth prize; 1 yen, sixth prize.

As soon as this feature was announced, the number of rats brought in immediately arose from 1,000 per day to between 5,000 and 6,000 per day. So fashionable had rat catching become that people from the surrounding towns brought dead rats as a visitory offering to their friends in the city.

You can well imagine that the bacteriologists who examined rats were kept hard at work to examine from 5,000 to 6,000 rats per day. The number of rats that one physician could examine, a report was made, was not more than 200. This rat crusade developed some very interesting features. One was that in Kobe and Hiogo there was an intimate association between the rat cases and the human cases. Many times, however, the rat infection was not followed by human cases, and a few human cases were found in which there could be no connection traced between these and pest rats.

A short time after the epidemic of Kobe, plague appeared in Osaka. Osaka is the great manufacturing city of Japan, having a population of about 1,000,000. It is located about eighteen miles from Kobe, and is easy of access either by land or sea. In the city of Osaka, by reason of its location, the conditions were quite different from those in Kobe. The latter is a small, compact city, situated in a narrow strip of land on the sea, surrounded on three sides by hills; it is well drained and has a good water supply. Osaka, on the contrary, is spread over a large flat plain, intersected in every direction by canals. The intercommunication being very largely by water, the population was an ideal one in which an epidemic disease like plague would spread. Plague broke out among some of the workers of the large spinning mills, and it is believed now that some of the infection can be traced to plague-infected cotton brought from Bombay. However, be that as it may, the authorities immediately saw that they had a very much more difficult proposition than that of Kobe. In the first place, the commercial and manufacturing elements protested strenuously against any such drastic measures which were enforced in Kobe, and so great was their influence that there was, for the time being, a modification of the measures which had proven so successful in Kobe, and they were suspended and the former status re-established. The rat examination, however, went on as usual, and it was not long before pest rats were found in several parts of the city, and at places quite distant from the place where the first cases were discovered. Again

sanitary measures were enforced, but soon brought to a standstill by the commercial influences. It was not until three separate and distinct outbreaks had occurred that the sanitary authorities were given a free hand. It was not long after this that the last case of human plague occurred, and the city has since been free of plague.

Some features of the campaign against the rat are not without interest. During the time of the cases there were, on an average, 5,000 rats delivered daily to the various police precincts. The number in 1901 was about 2,000 per day. From Nov. 20, 1899, to Aug. 23, 1901, there had been examined 565,589 rats, and of these only 158 were infected with plague. The last plague rat was found on June 21, 1901, one year and five months after the last case in man. There were 69,718 rats examined in Kobe and Hiogo between May 1 and Aug. 23, 1901, and two infected rats found—the first was discovered in March, the last on June 11, 1901. The last plague case was Dec. 21, 1901.

The long time elapsing between the last plague case in man and in the rat is quite suggestive and seems to offer an explanation of the recrudescence of plague from time to time in which the source of infection is unaccountable. Further, it emphasizes the fact that our measures against rat infection should be continuous, and for an almost indefinite time. In September, 1901, in conjunction with Dr. Bell of the Civil Hospital at Hong Kong, I made a bacteriologic examination of 251 dead rats which were collected by the scavenger force from all parts of that city. Without reference to locality where found, thirteen of these were dead from plague. Dr. Bell continued the examination of 100 each in October, November and December. He found for October 2 per cent., November 1 per cent., and for December none of the rats was infected. He says: "It is interesting to note that the subsidence of plague against human beings corresponds to that among rats. These examinations, while few, seem to establish the fact that one of the means, and what is believed to be the chief agency to not only disseminating plague but keeping it alive, is the rat. Certainly there was an intimate connection shown to exist between the rat infection and the cases of plague occurring among the better class of whites, who were living a considerable distance from the Chinese part of the city.

Whether the size or age of the rat has anything to do with the dissemination of plague, or whether it influences its virulence, can not be said. Of the number examined by us 124 were full grown, and of these 10 were infected; 63 were half-grown, and of these 3 infected. No young rats and mice were found infected.

We have already mentioned the fact that the temperature may have a direct influence in arresting plague, for it is a well-established fact that whenever the temperature reaches 81 to 83 F., and continues for some weeks, the plague mortality steadily diminishes. I have suggested that possibly the rat may be influenced in some way by the high temperature, maybe in a resting stage, and without inclination to migrate as at other seasons, and thereby may be less exposed to the infection and less liable to disseminate it.

Manila has now experienced two epidemics of plague since the American occupation. This focus of infection is almost of as much import to the States as the Chinese and Japanese ports. In October, 1901, soon after my arrival, the sanitary authorities began a systematic campaign against plague, and particularly with reference to the destruction of vermin. All rats caught, killed or found dead were examined. The anti-rat campaign developed the same results there as it had done in Kobe and Osaka. Plague cases became fewer, even at the season when there had heretofore been the greatest number of cases. Unfortunately, just when it seemed that a full control had been attained, cholera made its appearance, and the anti-plague measures practically ceased. Plague then began to increase.

There is yet a diversity of opinion concerning the rôle played by suctorial insects in the transmission of plague from rat to rat, and from rat to man. Simond's contention appears to be established by Thompson in the epidemic of Sydney, but so far this is the only instance where observations of this character have been confirmatory. Laboratory experiments made in this country and in Europe appear to establish the fact that fleas from an infected rat are capable of transferring the pest bacillus to healthy rats. Terni claims that the *Pulex fasciatus* infests both rat and cat, which sometimes infests man, while Gautheir and Raybaud's experiments show that plague can be transmitted from rat to rat by the *Pulex fasciatus,* and by a smaller species resembling the *Pulex irritans,* also that the ascarides sometimes infesting rats can also transfer the bacillus from sick to healthy rats.

In eight experiments made with fleas which infest man, by placing these on rats they were able to transmit plague from rat to rat, all of them were successful. Tidswell's observations[1] rather confirm Simond's contention. He says: "It does not follow that fleas harbored by the rats in two widely different places would be exclusively the same species. With a view of determining this, a collection of fleas was made from rats coming under observation. Of 100 fleas 10 were *Pulex fasciatus,* 8 were *Typhlopsylla musculi,* 1 was *Pulex serraticeps,* and 81 were *Pulex pallidus. Pulex pallidus* has not been heretofore mentioned. This species, as well as *Pulex fasciatus,* bit men; the others did not." In view of the fact that our observations are not as yet either sufficiently numerous or accurate, it would be as well to include the destruction of all insect life in our measures against plague until it is conclusively proven that these have no bearing on its dissemination.

Now with regard to the prophylactic injections for plague, it has, as is well known, been extensively employed in India and has passed the experimental stages. The epidemic of plague in Kobe and Osaka demonstrated that it was of greatest value in preventing its spread. Statistics are tiresome, but are, notwithstanding, sometimes necessary. The number inoculated from Dec. 12, 1899, to Aug. 22, 1901, was 110,115 in Osaka, and 30,000 in Kobe.

While the prophylactic injections were not made obligatory, many persons availed themselves of them, especially those who had been in contact with plague cases or where plague rats were found on or near their domiciles, and those whose avocations would be more likely to be exposed to the infection. The police and rat collectors were all inoculated—several hundred—and none of these contracted plague. One physician died of pneumonic plague—he was not inoculated. This is quite in contrast to the rat coolies of Hong Kong, where many died of plague. The Yersin anti-pest serum was administered to all those who were in direct contact with cases, and in not a few instances to those who had come in contact with pest rats. In none of these did plague

1. This observation appeared after presentation of paper, Jour. Trop. Med., July 15, 1903.

occur. From last accounts from Japan, the campaign of the sanitary surveillance still goes on, and it is the intention to maintain this so long as there is danger of plague being a menace to that country.

The measures to be enforced in a port infected with plague must of necessity be modified in their details, according to the exigencies of the case. No better plan has been devised than has been adopted by the Japanese and Australian authorities in the management of their plague epidemics, which may be summarized as follows:

1. Detection of cases and of rats infected.
2. Provisions for the care and treatment of those sick.
3. Isolation and surveillance of contacts and suspects.
4. A general inspection, personal and domiciliary, of the place by a sufficient number of trained experts.
5. A general destruction and examination of vermin for plague.
6. The offer of prophylactic inoculations and immunization to all persons liable to be, or have been, exposed to plague.
7. Disinfection of personal effects and of domiciles presumably infected or liable to become infected by vermin.
8. Preventing persons exposed to plague leaving an infected place until free from infection.
9. A sanitary surveillance over the common carriers.
10. A coöperation between the sanitary authorities, national, state and municipal.
11. Publicity.

"Plague is regarded by nearly every citizen as a possibility elsewhere, but not in his own particular city. The same note of resentment is struck in nearly every place where it has appeared. In Oporto, Bombay, Alexandria, Osaka and San Francisco the same old story is repeated. The commercial interests resent the imputation, and those who have announced the unwelcome news have been regarded as public defamers of the city in which they live."[2]

There are a few notable examples now on record which stand out in vivid contrast to the above, as is instanced by the action of the sanitary authorities of Japan, Sydney, Hong Kong, Glasgow and Mexico. Not only the simple announcement was made to the world, the regrettable fact of the appearance of plague in their city or country, but also that they were doing all that could be done to eradicate it. Whether success speedily crown their efforts or not did not rob them of the commendation, the assurance of coöperation or of the confidence and esteem of all countries.

It was indeed a lamentable fact that some of our citizens could not have seen their way clear to have been honest and upright, and to have adopted a proper course of action on dealing with plague soon after its discovery in San Francisco, instead of inviting disaster not only to themselves, but to the whole country, in their short-sighted policy of denial and suppression of the truth. We are confident that if the same amount of energy had been directed toward the eradication of plague as was displayed in attempts to obstruct and hamper the sanitary authorities, and in means of suppressing information, plague in the United States would have long since ceased to be a menace, and also there would not have been entailed the crime of sacrificing human lives for no other reason than to conserve and promote their commercial and political prestige.

It was a most humiliating spectacle! Misrepresentation, duplicity, fraud and suppression of truth were the watchwords emblazoned on their banners. The sanitary authorities of nation, state and city were opposed in everything they attempted to do. Attempts were made to suppress information, even reports sanctioned and made mandatory by the highest laws of our land, and in more than one instance their campaign was successful. There arose at one time what appeared to be the turning point in this tide of civic corruption, when reason and common sense would replace the foolish ostrich-like policy of the past, whereby the sanitary authorities would be allowed to discharge their duties without further hindrance. But the representations made by these obstructionists were so plausible (?), their promises and agreements really having the smack of sincerity, that a few were so blinded by their glamour that they fell an easy prey, and, like Samson of old, blinded and manacled were led forth captive to furnish sport to be mocked and jibed by these modern Philistines. The simile here ends. The house still stood. But plague, like Banquo's ghost, would not down. It held the even tenor of its way, gradually extending its territory, despite the plan of campaign, and could not be exorcised either by executive bulls or judicial opinions, even when loudly proclaimed by a venal press.

It is believed that from the very first the now Public Health and Marine-Hospital Service had no other desire than to do all that was possible to eradicate plague from California, and, while mistakes have been made in directing its policy, no one will doubt its sincerity in sanitary work. But this service, like those of the state and city, was also incapable of escaping the clutches of the great organized combination of commercial and political interests; consequently its efforts came to naught. Probably more would have been accomplished in the beginning had it not undertaken too much and had been more mindful of the statutory and constitutional limitations between state and nation.

The same story was repeated over and over again, and no progress whatsoever was made in the eradication of plague. It was, so far as the combination was concerned, an endless chain of falsification, duplicity and sordid self-interest—a travesty on civic decency—a monumental disgrace. Just how long this condition of affairs was to continue, despite the protests of honest people, none could foresee. It appeared to resolve itself in awaiting a time when those of San Francisco and California could by some yet undiscovered means or new procedures be brought up out of the mire, and be made to see the error of their ways, and be compelled to do something to eradicate the plague spot from their midst before it still further menaced the whole country. It did appear questionable whether anything would be permitted, until a sufficient number of cases had occurred to cause a panic and commercial disaster. Perhaps then they could be awakened from their self-satisfying dreams, would arise, clean their city, make the Chinese put their houses in order and keep them clean, or go.

The sanitary authorities of San Francisco and some of the state deserve the lasting gratitude of the nation. Too much praise can not be given to those who have constantly and fearlessly discharged their duties, despite the almost insuperable obstacles thrown in their way. The recently enacted law reorganizing the Marine-Hospital Service into a Public Health Service contained, among other things, a provision for a conference between its chief and the state health officials, to be held on the demand of five or more states or territories. Some of the health authorities, together with the writer, believed

2. British Med. Jour. Editorial.

that steps should be immediately taken looking to a concerted action of the state and national authorities whereby plague could be eradicated.

The preliminary steps to this end were taken by the Conference of State and Provincial Boards of Heath at its annual meeting at New Haven in October, 1902. The resolutions unanimously passed by that body were of such character that a conference between the surgeon-general of the Public Health Service and the several states was a natural sequence. This conference was held in Washington early in January, 1903, and resolutions passed by this body reiterated those passed at New Haven, and further spoke in terms of no mistaken meaning to those who had persistently balked every well-meant effort to clean San Francisco's Chinatown of plague, that the time had come when they must cease "to quit their meanness," tell the truth and be good.

All these things they are doing or have promised to do—the very things which were suggested to them in 1900. Now the city board of health is not being interfered with. The state authorities, together with the United States Public Health and Marine-Hospital Service, are aiding it, and a hearty co-operation established between all, each doing its allotted part.

It does seem as if this is the beginning of the end, and that after conscientious and persistent effort that the danger of a further extension of plague will be dissipated, and that soon the painful memories of the past two years be sunk into oblivion. Let us hope that the era of good feeling, plain dealing, honesty of purpose, and above all, good citizenship, may have come, and be established among those who have heretofore been guiding the destinies of a great state.

DISCUSSION

ON THE PAPERS OF DRS. CALVERT AND KINYOUN.

DR. F. G. NOVY, Ann Arbor, Mich.—The history of plague, to my mind, forms one of the most interesting chapters in the history of epidemics. Nine years ago the telegraph reported the existence of plague in China, and when the news reached Europe there were very few physicians who had the slightest idea as to what the plague was. At all events, it was extending, passing through and beyond the chief empires of the Orient; in time it reached South America, North America, Africa, etc. At the outset France and Japan sent commissions to investigate the disease. These commissions were headed by Yersin and by Kitasato, respectively, and they worked independently and at the same time in Hong Kong. The announcement was soon made that they had both discovered the plague bacillus. As a matter of fact, to Yersin, and not to Kitasato, belongs the credit of this discovery.

In plague we have a well-defined disease, caused by a well-defined organism; this organism can be seen easily under the microscope and can be easily found in every case brought to the postmortem table; and, moreover, it can be cultivated without difficulty. Experiments can be made on animals and the relation of the germ to the disease can be demonstrated to anyone.

The question naturally comes up: "How does it get into the body?" There is one point which I should like to emphasize, and that is, that plague is essentially an animal disease and is primarily not a human disease. It affects by preference animals, rats or other rodents in China, and these animals introduce the disease into the human subject. How? The flea is commonly held responsible for such transmission, which, however, is by no means absolutely proven. To my mind, other insects may take a part in and other means exist for its conveyance. The usual mode of entry is presumably through an inoculation wound, but it is exceedingly difficult to indicate just where the bacillus enters the body.

As to the germ, we may say that its virulence decreases when it is kept in ordinary culture. The organism is not so very resistant and is readily destroyed by various injurious conditions and substances. Several types of the disease are met with according to the manner of entrance of the germ. The most common type, where the lymphatic glands are enlarged, the so-called bubonic form of plague, probably results as I have indicated, by inoculation through wounds. The pneumonic type follows the entrance of the germ along the respiratory passages. A third or septicemic variety is at times met with. The mode of entrance, the virulence of the germ and the resistance of the individual are determining factors in the production of a given type of the disease.

I wish, though, to especially emphasize the prevention of plague by vaccination methods. In addition to these means we have, of course, methods of disinfection, the isolation of the sick, the segregation of those exposed; all of which are powerful means for controlling the disease. There are two methods of vaccinating against this disease: First is Haffkine's vaccine, which is prepared by growing the plague germ in beef tea. When such cultures are fully developed the germs are killed by exposure to heat, and the material thus obtained is ready for injection into the human subject. The immunity thus acquired by the individual is fairly lasting. A second method of vaccination consists in the use of Yersin's serum. This, when injected into the human subject, has a curative as well as an immunizing action. It is prepared by injecting plague bacilli, of the most virulent type that can be obtained, into the horse. The animal thus immunized gives a serum which is strongly protective, but the duration of such immunity is not as long as when Haffkine's vaccine is used. I believe that Yersin's serum, when properly prepared and not too old, when used in sufficient amount and in the right way, will give perfect results. Two years ago we had a case of plague infection of accidental origin in the laboratory. One of the students, in some unknown way, inoculated himself while engaged in making vaccines. He developed the pneumonic type of plague. The onset of the disease was sudden and severe. My attention was called to his illness about twenty hours after he had taken to bed. Pronounced evidences of the disease were found, such as high temperature, anxiety, respiratory distress, etc. An injection of the Yersin serum was given at once. Preparations were made at once from the throat and from the material coughed up, but these showed no germs. Within the next two or three hours a blood-streaked particle of sputum gave positive evidence of the existence of plague. The fellow was removed from his companions and taken to an isolation hospital. His condition was unfavorable to say the least. The young man had the pneumonic type of the disease, which form has a mortality of just about 100 per cent. One hundred and twenty c.c. of Yersin's serum were injected into the patient; of this 60 c.c. were given intravenously and 60 c.c. subcutaneously. Within twenty-four hours the temperature dropped from 104.5 to 100 and he improved greatly. Apart from a marked cardiac weakness which persisted for several months, he made an uneventful recovery. This case clearly shows the efficiency of the serum when given in large quantities and right into the circulation.

In connection with this subject I should like to say that it is exceedingly difficult to find the first case of plague which appears in any locality, simply because we are not expecting it and because it may be mistaken for several other diseases. It is very essential that the utmost care should be exercised in looking over suspicious cases, especially when one is in a locality where the disease is not known to exist. Early recognition means a relatively easy eradication. When, however, plague does establish itself it is exceedingly difficult to stamp out. We know that there is hardly another disease which is so difficult to eradicate as this one, and this is probably due to the fact that the germ lives in the animal body and thus keeps up a local focus for the spread of the disease.

DR. EMMET RIXFORD, San Francisco—I do not know why I have been called on to speak before this meeting as I do not pretend to have a knowledge of bubonic plague. Though I reside in San Francisco I have never seen a case. If, however, you call on me as a sort of representative of San Francisco to

say something from her side on this matter of the alleged concealment of the presence of the plague, a matter which has filled the medical and lay press for many months, I might be emboldened to occupy your attention for a few moments. San Francisco is not proud of the position in which she finds herself obliged to bear the taunts and sharp criticism of the guardians of the public health on the Atlantic coast. But there is something to be said on her side. She feels that she has not been quite fairly treated. It is, of course, hard for you to appreciate that much of the trouble was due to the local political situation in which you can have no interest, but such is the fact. There is no doubt in the minds of most of our local profession that had it not been for the extreme positions taken by rival and opposing political factions the sensational elements of the matter would have been largely avoided. The statements which received greatest publicity were exaggerated and far from the truth on both sides; the great mass of substantial citizens and the conservative portions of the medical profession were not heard in the controversy. Much has been said as to the domination of the commercial interests. Certainly the Merchants' Association of San Francisco, which is representative, did not at any time deny the existence of the plague. What San Francisco feared was quarantine. What she denied was the justification of quarantine, which was not only threatened, but in the case of two states was actually inaugurated against the state of California. At no time have the facts in the case warranted even the threat of quarantine. Quarantine is a frightful punishment to mete out against a community; it is justified only in the demonstrated presence of widespread and progressing epidemic. I am told to-day that the boards of health which met not long since had no real intention of placing quarantine on the state of California, that they used the threat merely to bring us to our senses and that the matter of possible quarantine would never have been suggested had the medical profession of California openly acknowledged the presence of the plague in San Francisco instead of denying it. The facts are that the medical profession of California in session of its State Medical Society two years ago did, by resolution, put itself on record as recognizing the presence of the plague in San Francisco, and the fact was widely published in the medical and lay press. It is now three years since the plague was discovered in San Francisco, and in all that time there have been but 90 sporadic cases, and these, with but two or three exceptions, confined to the Chinese race. At no time has there been an epidemic of plague in San Francisco, or anything approaching it.

There is another thing which seems to me to have considerable meaning in extenuation of this unfortunate controversy, and that is the fact that the world knows a great deal more about the plague to-day than it did even two or three years ago, and that had the present knowledge of the subject been generally disseminated when the plague first appeared in San Francisco the efficiency of preventive measures would have been appreciated, the comparatively slight contagious characters of the disease would have been recognized and the hysterical statements which set the whole United States agog would not have been made, and intelligent effort would earlier have been directed to the eradication of the disease. Happily now the situation in San Francisco is more satisfactory; there has not appeared a single case for more than two months, and the officials of the United States Marine-Hospital Service and the local and state boards of health are working in harmony, watching and fighting the disease, and it is to be hoped that we can soon say that the disease has no longer a focus in San Francisco.

DR. W. J. CALVERT, St. Louis—There is one feature of prophylaxis of plague which I should like to mention, namely, the dangers of Oriental infected centers or plague centers. In Canton and Hong Kong plague exists from year to year with practically no steps taken to check its propagation and dissemination. The present pandemic practically originated in Canton, to be distributed from Hong Kong to other parts. Even if plague could be quickly and effectually eradicated from San Francisco, Mexico, etc., it would soon be reintroduced from Hong Kong. It seems to me that in discussions on the prophylaxis of plague too little attention has been given to these sources of the disease. As long as they exist the world is exposed to infection. I think we should try to improve the hygienic conditions in these centers by properly educating the Chinese, who at present know nothing of modern medicine. If properly approached they would be only too willing to lend a helping hand to rid their people of this pest, and at the same time the outside world from the danger of infection.

THE HISTORY AND ETIOLOGY OF "MIGRAINE."

GEORGE M. GOULD, M.D.
PHILADELPHIA.

(*Concluded from page 172.*)

The Eye and Migraine.—For several thousand years the observation has been unconsciously persisted in that the cephalalgia is not a head-pain, but an eye-pain. Few or none in any definite way noticed that it was produced by near-use of the eyes, and none that the various extensions to other parts and organs, the intensifications of the pain, and the masking under a hundred other protean disguises, were also products of continued and increased eyestrain. But there was never any failure of the necessity to notice the implication of the ocular factor. The most noteworthy after the eye-pain was, of course, scintillating scotoma. The seat of this strange disorder has been placed in every part of the visual apparatus from the retina to the ultimate of the visual center:[1] Piorry's theories of "monophthalmalgia" or "iralgia," or of an affection of peripheral nerves of the eye, was followed by Brewster's thought that the retina is the organ affected. Airy, Förster and Liveing placed it within the cranium, the latter, with Wollaston, locating it in the thalamus. Mauthner argues against the cortical localization. Dianoux thinks the source is in the optic nerve, the chiasm, the optic tracts or the geniculate bodies. Baralt returned to the retinal theory and Féré defended the cortical localization. Possibly the mixture of phosphene symptoms helped to create the diversity of opinions. It has also been noticed that the typical fortification spectra is of great variety; that often it is not colored or quivering, etc.; that it does not have any uniformity of location or appearance; and, finally, that it is often not a positive phenomenon at all, but merely a negative one—"aphose," "anopsia," "vision nulle," etc. There may be a failure to perceive the image in varying degrees, in various parts of the field, and for varying lapses of time. "Blind headaches" the patients speak of in such cases. Spitzer is in error when he says all scotomas are positive, the products of irritation. I have had many patients who, on being narrowly questioned, bear witness to the negativity of the visual difficulties. Neither is it always binocular, as he contends. Theory is abundantly contradicted by observation when he says that "the visual aura of migraine is an irritation symptom, a binocular homogeneous hemiscotoma." Siegrist contends for the purely negative character of all migrainous scotomas, and believes they are of cortical origin. And such beyond question they are.

But wherever may be the location of these disturbances, they are visual in character. Thus what is recognized as the most frequent aura or initial symptom

1. This has been elevated into an independent disease, especially by Galezowski and Féré. Charcot, Airy, Latham, Listing, Förster, Mannhardt, Ruete, etc., have especially commended or emphasized the special treatment of this form of migraine. The results are naturally *nil*.

should have pointed to the visual function as the source of the mischief which it ushers in. In other diseases such a symptom dictates the location of the trephining of the skull. In migraine it is held as without suggestive value.

Some 300 years ago Lepois, in beginning the study of medicine, found that he was greatly afflicted with migraine. He endured the attacks for four years and then, as thousands have done since, he fled to Italy. With cessation of study and with the out-of-door life he led, he soon recovered, and thought himself rid of the disease. But when he went back to his home and literary work the attacks returned as bad as ever. He naturally sought an explanation of the mysterious affection, and found it to consist of a serous exudation produced by vomiting. Since his day the same persistent cause has inevitably produced the infinitely multiplied result, but to the fact all have been blind, and all have multiplied theories as misleading and groundless as that of Lepois. And yet medicine is said to be purely empiric. The cause has been ever before and in their eyes, and empiricism has failed. And yet medicine is said to be a science, although none has observed the simple fact always present that near-use of astigmatic eyes is absolutely required to produce migraine. In the last century arose a so-called "cure" for migraine or for suffering eyes, atropin in the eyes, when, rarely, the eyes happened to suffer in migrainous attacks. Nietzsche was put through this cure. It acted as successfully as the other prescriptions, "Italy," or "Switzerland," or "walking the moors." But the cure did not last. The patient's ills returned when the mydriatic or the "change of climate" had ended, and there was return to literary work. Later, Brewster reports three cases of cure that really cured. He credits it to atropin, but ends the report of each case with the incidental remark that glasses correcting the ametropia were also prescribed!

Migraine or hemicrania, when we inquire with accuracy either of the literature or of private patients, is almost always not cranial in any common acceptation of the term, but is ocular. The fact that gave origin to the word is that not the skull, so much as the eyebrow, temple, eye and orbit, is the small portion where begins the headache, and whence with ingravescence, radiates or extends the disease to all parts of the head, the nervous and digestive symptoms. A large proportion of all so-called and recognized "ocular headaches," perhaps, have the same initial symptom and location. A great theory of the nature of the disease, migraine, was that of Piorry, which supposed that the neuralgia started from the nerves of the iris and was pathologically reflected from the cerebral sensitive center to other organs, from which reflex came all the symptoms and results of the subsequent disease. When the time and the state of medical science are considered, this showed a remarkably close observation and a near guess at the truth.

Other references to the eyes are, "anxiety about college examinations," "troublesome letter writing," "a rapid succession of visual impressions (in traveling) in upsetting the sensorium, and producing a vertiginous state allied to sea-sickness." Glaring lights, "sight-seeing," "an evening entertainment" have, of course, been noted. "Reading on a full stomach" caused the attacks in a great physician, and he could thus produce an attack instantly. Two young ladies always brought on the attacks by reading late at night. Incidence of strong light, a reflected light from snow, ice, a tablecloth, are also put as causes. In Dr. Airy's case the attacks generally came on "while the eyes are engaged with troublesome reading." It was so with Dr. Piorry, who could produce the disease experimentally "by strongly fixing the sight on reading." Looking at striped wall-paper, or a striped dress, a trellis, etc., are other causes, but it aroused no attention to astigmatism or the eyes in the physicians who chronicle the fact. Liveing's comments on these causes of the "nerve-storm" and the "habit" of migraine are most instructive—at least for us of to-day. Pity they were not more so to him. Liveing notes that dressmakers and others compelled to work far into the night, often for weeks together, complain of migraine. He does not fail to explain it by the "close and confined rooms."

It is set down that "mental exertion"—it is not called study—especially in lads at school and young men at college often causes the first development, or at least the increase, of the malady. "Close application to books," "and those modern instruments of torture, competitive examinations," are emphasized—"especially if coupled with deficiency of out-door life." "The same thing," says Liveing, "happens in later years to literary and professional men," especially between 30 and 40 years of age. But "overwork and over-anxiety in business" are, in these cases, the causes. "Students' life and intellectual competition," not eyes, are the supposed factors. "In Mr. A.'s son the early strain of school life caused the 'day-nightmare,' which preceded his megrim, and his subsequent attacks of the latter complaint were always multiplied by close application and almost ceased with an out-door life. It was much the same, though commencing at a somewhat later period, with his father and uncle." Dubois Reymond found his own attacks subsided when he had leisure to stop severe intellectual work. In one of Liveing's cases, "a child of 9 had been overworking at school, and on returning home early with a headache, etc." Another boy was 13 or 14, and to overapplication at school was ascribed his attacks. Of thousands of boys the same might now be chronicled.

But among many other things pertaining to the eye the most striking and convincing demonstration of the ocular cause of migraine, and at the same time one of the most remarkable instances of scientific error, is that of Dr. Alexander Spitzer. In 1901 he published a most erudite and critical monograph on the disease, the conclusion of which is that stenosis of the foramen of Munro is its unique and universal pathologic basis! This bizarre theory, the latest result of critical science, does not need a word to demonstrate its absurdity. One can only ask, why the inveterate disinclination to ignore the eye itself?

In his great work, Allbutt, like many others, notes that migraine is of exceptional frequency among those pursuing sedentary or in-door occupations, and rarely in those living an out-of-door life. The treatment is, therefore, advised to live much out of doors. But Allbutt and his departmental writer, Mackenzie, has no allusion whatever to eyes in the article.

In 1888, Dr. G. Martin (*Ann. d'oc.*, 1888, xcix, pp. 24 and 205), a French oculist, published an article which some time will be recognized as truly epoch-making. But two writers, so far as I have noticed, have even mentioned Martin's magnificent and daring attempt to bring the medical world to its senses. One of these, Spitzer, passes Martin by with a one-word men-

tion of his name. The second, Schmidt-Rimpler, himself also an oculist, scorns Martin's theory with genuine unscience.[2]

One day Martin happened to get one of the astigmatic lenses of his own spectacles reversed, or "hindside-before," as patients often do, and he had a violent attack of sickheadache. This has frequently occurred with my patients, with the same sudden appearance of "the disease whose nature is unknown." Martin happened to possess the power of observation and to be a scientific scientist. From his own experience he was led to study that of his patients, and it was soon evident that their migraines were due to astigmatism, i. e., to partial and too continuous contraction of the ciliary muscle. When a single eye was astigmatic, and the other not so or less so, the pain (hemicrania) was over the astigmatic eye. With loss of one eye the bilateral migraine (if one may be excused the absurd term) became unilateral. When only one eye is used in vision, if it is the less astigmatic, the migraine is on that side. With cataract operations on both eyes the whole migrainous troubles disappear instantly, because there was then no function or malfunction of the ciliary muscle. (Surgeons and scientists should not, therefore, advise extraction!) Martin reports many cases of cure by spectacles correcting the ametropia. As to heredity, he counters capitally that the corneal abnormality (astigmatism) is as often hereditary as the incriminating diathesis. Of course, a headache can not be inherited, but only the anatomic, or other conditioning cause of headache.[3] The diathesis or constitutional factor determines whether existing astigmatism will produce migraine, and just what its nature will be. Martin reports 352 cases. Low astigmatisms, of course, are the rule—just such as the inattentive European oculist frankly ignores and scorns. There were, for example, in one series: 66 cases with 0.25 D.; 121 cases with 0.50 D.; 77 cases with 0.75 D.; 18 cases with 1.00 D.; 2 cases with 1.25 D.; 1 case with 1.50 D.

In higher degrees, as we know, there is no attempt to neutralize the corneal asymmetry and so no reflex disease. Near-work occupation is renounced, study interdicted, the eyes ruined, or a criminal life confirmed, but there is no migraine.

The morbid science which made the profession utterly ignore the testimony of S. Weir Mitchell published thirty years ago, made it overlook Martin's most valuable and scientific contribution. The great mass of medical men smiled and passed on after the manner of the leaders who knew so much and yet who knew so little. But the quiet protests and reports of other oculists began to appear, especially in America, and better still, thousands of patients began to tell thousands of their friends that "glasses cured my sickheadache." The doctors kept on with that wonderful smile, but it is now becoming more concealed and if exposed to public view, more sneery and much more sickly. The professional leaders, the text-book makers, the monograph-writers, especially if of European origin or tradition, have the smile thoroughly out of sight. In fact, they never smiled. Their books know nothing of eyes. In our country the bookmakers, as a concession to popular superstition and in order to be on the safe side, and to show they do know about all this sort of thing, make a lofty allusion to the ocular factor and treatment, but in a given case in their office they would no more think of directing the patient to an oculist than to a corn-doctor. Osler goes so far as to say that many headaches are from eyestrain; that many of these are hemicranial; and that in migraine the eyes should be examined. Tyson barely alludes to eyestrain, Anders also notes it, but in treatment he ignores it. French and Monro say eyestrain is a cause. The "New International Encyclopedia," volume of 1903, gives eyestrain as one of the causes of migraine, but fails to mention the fact under treatment. At present, all over the United States, there are quiet, almost unknown oculists who are curing thousands of patients of the afflictions described in the 14 historic instances of the two volumes called "Biographic Clinics." Hardly a week passes that noteworthy testimonies are not printed in medical journals by honorable oculists, that the eyes are a powerful factor in producing sickheadache and various morbid reflexes. Many other oculists do not publicly testify, and are afraid to acknowledge either their belief or the facts privately, for reasons which all consultants and referers of cases well know. There is an old disease called "Being between the devil and the deep sea." Thousands of American patients have learned that good refraction cures and prevents sickheadaches and many other miserable diseases. But their official medical advisers derisively smile that old-time, tired, sneery, sickly smile. The young and timid physicians, specialists or generalists—the great mass of the half-convinced or well-frightened—find themselves on a very narrow strip of an island or peninsula. On one side is water, deep, cold and far-reaching; on the other is what the polite little girl in her prayers called "the gentleman from hell."

The Relation to Age, Sex and Occupation.—From of old it has been noticed that migraine rarely appears before the age of puberty, and that with old age it disappears. But I am sure that it occurs more often in childhood than is supposed. Gowers goes so far as to say that one-third of all cases begin from the fifth to the tenth year. It all depends on the existence of ametropia and the amount of study, reading, etc., carried on. I have had a large number of school children afflicted with the malady in variant and typical forms. One little boy I particularly remember whose astigmatism for years increased about 0.5 D. every few months, was each time relieved of his intense vomiting by a change of glasses until the compensation of the higher astigmatism again became impossible. Puberty has nothing to do with the existence of the disease in either girls or boys. In the same way one of the superstitions of the ages appears in physicians' offices, both in patients and physicians, that with the menopause there is a sudden rising or exacerbation of many diseases, chief among which is migraine. The menopause has nothing whatever to do with this, which is wholly due to the increase of the ocular reflexes caused by presbyopia. The blunder should long ago have been manifest to the crudest observation.

There is no causal relation between the sexual history and organs and migraine. The old observation that women are more subject to the disease than men is also explained by the fact that women have always in the

2. This distinguished specialist rightly finds "glasses do not cure," because he fails to see that he has never prescribed proper glasses for his patients. The astigmatism, ametropia, etc., must be corrected in order to cure, and such correction is beneath the dignity of the German oculists. Patients so report and books and articles frankly confess the fact.

3. "A man bored a hole in a tree and a woodpecker came and lived in it. 'The tree has conceived' said the man, 'and has brought forth a bird.' Next year the woodpecker went away and two flying squirrels lived in the tree. 'What a curious thing,' said the man, 'is heredity.'"

past done more near-work with the eyes than men—sewing, house-life, cooking, weaving, reading, etc. Whenever men pursue such occupations the disease is proportionally as frequent, modified slightly by their greater neurologic and temperamental resisting power.

The books and monographs also speak of the great incidence of the affection among the upper classes, the liberal professions, men and women of letters, etc. As the French say, *La migraine est le mal des beaus esprit.* This means only that such people read and write more than others. I have never heard of a case of sickheadache among farmers, policemen, firemen, soldiers, ranchmen, trainmen, cattle dealers and drivers, sailors, etc. But among seamstresses, typewriters, typesetters, latheworkers, watchmakers, book-keepers, copyists, sewing-machine girls, weavers, etc., the disease is as common as among students, literary workers, educated people, etc.

An amusing and long-drawn out correspondence and discussion occurred in one of the London papers in November and December, 1903, on "Brain-fag." Almost every line showed that "brain-fag" was caused by use of ametropic eyes, not by use of the intellect.

As to periodicity, when the life has been forced into regularity and routine, there is sometimes an approach to regularity of rhythm in the attacks. But in another case and in the same one if ocular rest is secured, even for a day, the return of the attack is replaced by health and happiness. The length of the attack may thus vary from a few hours to almost any number of days. The interim of freedom varies with each patient and with the ocular labor of each patient, from a day or two, to once in a lifetime.

The Gastric Crisis.—Inaccuracy of observation is shown in the descriptions of gastric symptoms by many writers. In the first place there should be a distinction drawn between nausea and vomiting. Many patients will have nausea only, not followed by actual vomiting, and it is the testimony of most patients that this nausea is far more agonizing than vomiting would be—that emesis would bring relief. On the other hand, there is not seldom intense retching without any or but little vomitus. This is worse than either of the other two kinds of sickness. The difficulty of understanding what actually takes place in a given case is enhanced by the disinclination, especially in literature, of patients to state that actual vomiting took place. They use euphemisms, "malaise," "nausea," "sickness" and many indefinite or misleading terms. One's doubt is heightened by the difference in different countries, and even in one country in the significance of the word "sick" and "sickness." Many writers state that the gastric complication comes on and ends suddenly, and with the vomiting there is immediate return to the normal state of health. But constant retching and digestive misery sometimes persists for one, two, and even three days.

Then there is the failure to notice that the nausea and vomiting are but the latest and severest stages of the one disease, brought on by continuous application of the eyes, regardless of the prodromal and cephalgic warnings. Parkman, Huxley, Browning, Spencer, Carlyle, heeded the warnings and avoided the results; Nietzsche, Mrs. Carlyle, Margaret Fuller, George Eliot and Wagner did not heed, and their lives were tragedies. There is also wanting in reports the recognition of the striking fact that patients with the severe gastric disease, sickheadache, which produces vomiting, indigestion, anorexia and anemia, are able and are irresistibly compelled to walk five, ten or fifteen miles a day, or take some other form of exercise; and they are able to do it with ease and with the most manifest relief of all symptoms. In what other organic or severe stomachal disease is this possible?

Colds, Rheumatism, and Gout.—In private practice the careful and scrutinizing oculist finds that common colds and influenzas have a strange connection with eyestrain, and the relief of these conditions often follows the wearing of glasses. A misplaced or wrong lens strangely results in "a cold." In the cases studied in "Biographic Clinics," there are many confirmations of the fact. Mrs. Carlyle's "eight influenzas annually" is an instance, and all through the biographies of several of these cases colds and influenza are mysteriously present. It is exactly the same with rheumatism and gout. I have found no accident or cause ascribed for Parkman's life-long arthritis. The accounts of Nietzsche's "rheumatism" and that of the other patients are likewise both mystifying and suggestive. Sir Henry Holland is the great advocate of the theory of the gouty origin of migraine. To excess of uric acid in the system he and many others ascribe the disease. Because migraine as an "independent disease" is in reality due to eyestrain, the only conclusion to be drawn is that eyestrain often causes gout, rheumatism, and the "uric acid diathesis." To that conclusion, medical science may sometime come.

Pareses, Paralyses, Anesthesias, etc., are most constant, frequently reported, and remarkably peculiar symptoms, concurrent or resultant, in the history of migraine. The following are the words of some of the reports: "The right arm becomes numb in the paroxysm, and in consequence so useless that she will let things drop from the hand." "Numbness and a sense of tingling (like that in a foot or hand 'asleep,' as we say, and 'pins and needles') commence in the fingers of the right hand and gradually extend up that arm and side, until the throat is reached. The interior of the throat, the tongue and lips seems to share in the sensation, which is no longer confined to the right side, but affects these parts bilaterally. The speech is next implicated." "It is utterly impossible for me to speak." "This disorder of speech is like that of some other highly educated patients." "An arm or a leg of the same side, one time one side and one another, go to sleep." "I feel a tingling as if ants were on them. I have the same feeling in the mouth and tongue, and, further, during this period, I have the greatest difficulty in speaking." Disorders of sensation and touch were present in 21 out of 60 cases in one series, sometimes alternating with disorders of sight. A distinguished physician, Travers, describes in his own case the numbness in fingers and tongue, so that touch and taste were muffled, etc. Piorry speaks of "painful thrilling," vibratory in nature, "uselessness of the hands," "transient hemiplegia." The description of Nietzsche's "rheumatism" creeping up the arm, etc., and others may be construed as the explanation of popular and permitted pathology. In private practice I have often noted these disorders of motility and sensation as dependent on eyestrain, and if, as I am convinced, migraine is caused by eyestrain, there can be but one conclusion of the matter. The overlooked little and contemptible cause, just as in daily life, is also the secret of pathology and practical medicine.

Ocular Paralysis.—Transient paralyses and pareses of the ocular muscles are well-recognized effects in migrainous histories. "Of the internal rectus of the right,"

"partial of the oblique," ptosis, etc., are explained as inhibitory phenomena. Double vision, of course, is the result of these ocular paralyses.

Psychic Disorders, not alone those naturally resulting from long and intense suffering, but such as temporarily and directly are the immediate consequences of the disease, are frequent in all the literature of migraine. Confusion of intellect, temporary loss of memory, inability to speak, or to speak intelligibly, embarrassment, etc., are frequent expressions. It is noteworthy that these are usually concurrent with anesthesias, paralyses, pareses, etc. "Confused and tumultuous mental and emotional conditions" are the most frequent effects. Hallucination is rare. Professor Lebert's severe seizures began with "incoherence of ideas and difficulty in finding words." "Strange and wandering in his mind;" "unable to collect his thoughts;" "mind affected;" "mentally incapacitated;" "whatever he read left no impression;" "disorder of ideation;" "double consciousness;" "the past and present confounded;" "feeling silly;" "losing their senses;" "confusion in the head;" "uneasiness;" "irritability;" "mental incapacity;" "sick-giddiness;" "vertigo;" "determinations of blood to the head;" "threatened apoplexy;" "tumultuary disorder," etc., are a few of the hundreds of expressions that might be gathered in the literature. The description given by Crichton (Vol. I, p. 237) of the case of Dr. Spalding of Berlin is most suggestive. When the patient tried to write he was unable either to think or to make sensible sentences. A multitude of excerpts might be gathered from literary history bearing witness to the same mental paralysis. Parkman's "stirred-up head" when he wrote a few minutes told him to stop; Wagner, Nietzsche, and indeed all eyestrain sufferers had the same or similar disorders.

But the profoundest evil is the dejection and disgust with life that follows persistent use of astigmatic eyes. It is noticed in all the best literature of migraine, ill humor, petulance, morbid introspection, irritability, proceed to melancholy and pessimism in the extreme cases. "Inexpressible fear" is recorded by Dr. Reynolds; "vague dread," "a sense of apprehension and insecurity," "dread," "apprehension," "something about to happen," "shuddering at the thought of an attack," "horror," are some of many expressions that have been recorded. Sir John Forbes says: "There seems to be some peculiarity in the pain, whatever be its degree, unlike the pains of other parts of the body, and as if it were combined with something of a mental quality. There is a feeling and a fear of impending death, and the primary symptoms of corporeal disorder, etc." This intellectual disorder and morbidity of the emotions is painfully evident in many great literary men who suffered from migraine or from eyestrain. In Parkman it was so evident, and yet so under control, that his friends, not himself, and the greatest physicians believed in his insanity. Wagner was also thought to be insane by physicians who knew nothing of migraine and less of eyestrain. Two of Nietzsche's oculists recognized the ocular origin of his malady, but that did not prevent the terrible tragedy of his paralysis. Even Professor Möbius, in 1903, says that "myopia can not produce migraine;" and this great clinician has not heard of astigmatism, or if he has heard of it, cares nothing for it. And if he cared much for it, he could not, in all Germany, get it corrected in his patients. Wagner resolved to commit suicide many times, when driven to desperation by his awful suffering. The effect of this mental torture and gloom in great literary workers is the almost single cause of the "literary pessimism" in an age of rugged vigor, luxury and national expansion.

The lessening of the amount of literary work that would otherwise have been done is exactly in proportion to the severity of the reflexes, or in the skill whereby they are avoided. In private practice one finds whole lives made futile, painful and invalid. Doctors are consulted, travel undertaken, spas visited, hydropathy pursued, quackery multiplied, patent medicines guzzled, narcomania encouraged, alcoholism made chronic. In biography one sees literary labor avoided, made impossible, reduced to an hour or two a day or to a life average of production of a few lines a day. To avoid this Parkman is compelled to write his own name by means of his gridiron, and Nietzsche is paralyzed at 44. Moreover, the literary work done is abnormal in character and is produced "in a white heat," the "nerves ablaze," in "a shivering precipitancy," etc., as Wagner, Nietzsche, Carlyle and others testify.

Treatment.—The chapters on the treatment of migraine are longer than that famous one concerning snakes in Ireland, but are less convincing and satisfactory. The systematic books and articles give pages of drugs to be tried. The profession at one time settled down to hydropathy and diet, until the amusing and yet warning resultlessness lessened the enthusiasm. And then the quacks took up these scientific methods. How both treated the 14 sufferers of "Biographic Clinics" may be read in those volumes. The present-day treatment of such patients is as ineffective and scarcely less irrational than in the time of Parr, who advises:

1. Keep the bowels open, i. e., give cathartics, purges, etc.

2. Drain from the head, by a perpetual blister on vertex, etc.

3. Emetics. "The tyro, without a suspicion of the difficulty, by the exhibition of an emetic has succeeded."

4. The fetid gums, especially if "joined with aloes."

5. Camphor, nitre.

6. He advises against the too common practice of cutting off the hair, because it is supposed to keep the head warm, and also in order that cold applications may be more conveniently applied. The author himself says that he long had headaches and that they returned frequently after shaving the head, and after he let the hair grow he suffered less in violence, frequency and duration of his paroxysms. (When Parr published his dictionary he was 59 years old!)

7. Bleedings, leeches, cupping-glasses, opening the temporal artery, diet, etc.

8. The suppression of the hemorrhoidal discharge. Parr doesn't believe much in this, but says that "in the whole circle of practical medicine no question is so difficultly explained as the connection of the hemorrhoidal discharge with the general health; or, rather, the supposed connection as stated by the German physicians. The experience of ages must not be overlooked. The hemorrhoids were considered at a certain period of life as essential to the male as the catamenia to the female."

9. Mental causes, anxiety, etc., are to be lessened.

Sequels of Migraine.—Martin and others have noticed that migraine often ends in a period of herpetism.

One is reminded of Wagner's life-long and inexplicable attacks of "erysipelas." Blanching of the hair has been noticed. The disappearance of migraine, says the "Dictionnaire des Sciences Médicales," is often followed by gout, asthma, hemorrhoids and cutaneous affections. Trousseau says the same of gout. Tissot, Wepfer, Schobelt, Laurent, Percy, etc., cite cases in which migraine disappeared and was at once replaced by an unconquerable diarrhea, to which the original disease was preferred. The relation to hemorrhoids noticed by Parr gives a glimpse into clinical medicine, at least of the middle and later ages, which seems to have been overlooked or outlived in our time.

Use of the Eyes at Near-range is the Cause of Migraine.—I have never had or read of a case of migraine or of sickheadache in which it was not strikingly manifest that near-use of the eyes was the cause of the disease. Fifty pages of quotations from Nietzsche, Wagner, George Eliot, etc., could easily be gathered testifying with amazing unanimity and intensity to this fact.[4] The records of private cases show the same thing. In the extreme cases, and especially during the ages from 40 to 60 years, this inability to write and read reaches such a height that it is possible only for an hour or two or a few minutes a day, and then only with cries of pain. Letters are replaced by postal cards, near-work with the eyes is renounced, and a trip is taken, wet-packs endured, walking or mountain climbing begun, etc. To such a degree was this recognized, both by patient and physician, that it became in the last few centuries an established practice to spend most of one's time in "walking the moors," journeys to Switzerland or Italy, trips to the seashore, etc. "A change of climate" became the universal prescription for all "brain-workers" who had symptoms of "brain-fag" or of "migraine." The great vogue of hydropathy arose largely from the suffering that followed near-use of the eyes, and spas, cures, mineral springs, health resorts of a hundred kinds and in a hundred places sprang up largely to meet the demand for ocular rest and the relief of other ills that came with it.[5] The world and the profession ascribed the cures to the stopping of intellectual work, and to the waters, packs, mountains and sunshine. But the ills returned always when the eyes were used. Thousands of other persons used brain and eyes without these ills, that made no difference in faulty observation, and the domination of theory and preconception.

Almost all observers find it impossible to draw any distinction between headache and megrim. What causes one causes the other. What cures one cures the other. As a matter of theory, they draw fine and infinite distinctions between the two, but they are terribly puzzled, contradictory and self-contradictory when it comes to observation of cases and to treatment.[6] The lighter forms of migraine, the unclassifiable thousand types of headaches and "masked migraine" are, says a later writer, "essentially of the same stock—merely feebly developed forms or the vanishing inheritance of previous generations." To such a pass have the theorists come! Driven by desperation and a sound observational instinct, the excellent Liveing, after excluding certain types, justly and rightly, crowds them all into "one independent affection, constituting a malady *per se*—all varieties of migraine."

Liveing is right in finding the riotous multiplicity of symptoms classed under headache, sickheadache, etc., to be the expression of one independent morbidity or malady *per se,* erroneously called migraine or the megrims. But Liveing, as well as every other writer on the subject (except Martin), missed the open secret. The appalling mystery of thousands of years, especially of the last 300, the explanation of the one disease whose cause and nature and cure are unknown, is now clear to all who wish to know, and whose minds are capable of receiving the truth. Migraine, in its so-called typical or in its multitude of atypical forms, is but one of the manifestations and results of eyestrain. Eyestrain produces almost an infinity of morbid results, and migraine, typical or not, is, if not absolutely, almost always, one of the products of the malfunction of astigmatic eyes. Any one can test the theory who wishes. The disease may be caused experimentally (on the skeptics, if they will!) by wrong glasses or by maladjusted right glasses. It may be cured by lenses correcting the astigmatism on which the disease depends.[7] The profession has for many years scorned the truth, until now the patients themselves are fast becoming aware of it without the doctor's advice. For many years to come they will probably have to teach physicians the etiology and therapeutics of their ailment.

4. The cephalalgia of students, says Parr, is often a nervous affection merely. "Whatever be the action of the nervous fibers in intellectual operations its excess is often a cause of pain; though, in many instances, the cephalalgia of students is connected with obstruction of the bowels, and very often with increased determination to the head."

5. This cause has been operative, one may believe, in establishing the English custom of country houses and homes.

6. An old astute observer wrote: "It may be doubted whether causes do not sometimes produce pain in the head, which are still less easily traced. . . . On a review of these causes of idiopathic headache we must regret that the source of so few cases is discoverable and that we have scarcely appropriate remedies for any of those which we can ascertain."

LIPOMA ARBORESCENS TUBERCULOSUM OF THE KNEE JOINT.

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SAN FRANCISCO.

J. S., male, age 50, has suffered with a swollen knee joint for several years; this has gradually grown worse, and was extremely painful on motion. He was incapacitated for work, and was compelled to rest heavily on his cane while walking. There was no history of traumatism, syphilis or tuberculosis.

Examination revealed a knee much larger than its companion, with an obliteration of the patellar folds. Fluctuation was present. The patella was very movable, due to the presence of fluid within the joint; no pain on manipulation. The patient could flex his leg to a right angle; this movement was accompanied by a "meaty" crepitus, not the form of crepitation, however, commonly felt in a diseased joint; in other words, a sensation was transmitted on palpation, as if some soft substance were present within the joint. This crepitation became more marked as the flexion increased. The skiagraph revealed a shadow darker on the outer side. There was no increase in the number of leucocytes and no temperature.

The Diagnosis of hydrops tuberculosis with synovial involvement was made.

Operation.—Under hemostasis, an incision was made along the outer side of the patella, which was followed by the escape of about 120 c.c. of a clear yellowish serum. As this serum escaped, myriads of villi protruded into the wound; these, on

7. Very rarely it is not curable, as in the cases of George Eliot and Lewes, because a life of suffering has killed all reaction even when the cause is extinguished. In the young it is always curable—if the careful and scientific oculist is found.

closer examination, were seen to spring from the postpatellar bursa. On the outer side, the bursa of the quadriceps, which formed the basement membrane of these villi, was easily extirpated, but it was soon seen that, in order to remove the growth completely, it would be necessary to expose the entire joint. This was done by making a transverse incision through the extensor muscle, severing it completely from the patella, which was then turned downward and forward. Considerable difficulty was experienced in separating the bursa on the inner side from its attachment to the patella and the condyloid surfaces of the femur; these, however, were found free from disease. Hemorrhage was slight and easily controlled by pressure. The ends of the severed muscle were then united with plain catgut and the wound closed, small gauze drainage. A plaster cast was used with the leg in extension, no counter extension.

Course.—Recovery was uneventful, the patient leaving his bed within a fortnight. At this time passive motion was commenced, so that after four weeks he had 60 degrees of flexion. He then passed from my observation, being compelled to leave the city. Six months have now elapsed, and he writes me that he walks without a cane, using one only when walking long distances. He can bend his leg to a right angle, and is much pleased with the result of the operation.

For the following description of the above tumor, I am indebted to Dr. Lois Nelson, pathologist of the California Women's Hospital:

Macroscopic Examination.—The tumor is an irregular mass measuring 15 by 8 cm. and from 1.5 to 2 cm. in thickness, and represents the true synovial bursa. The outer surface of the tumor is comparatively smooth. The inner surface is thickly covered with villi, which produce a shaggy appearance. Each villus has a smooth surface, most of these being pear-shape and attached to the base of the tumor by very slender stems. The villi vary much in size; some are 2.5 cm. in length, and are broad, and others are pin-point in size and thread-like.

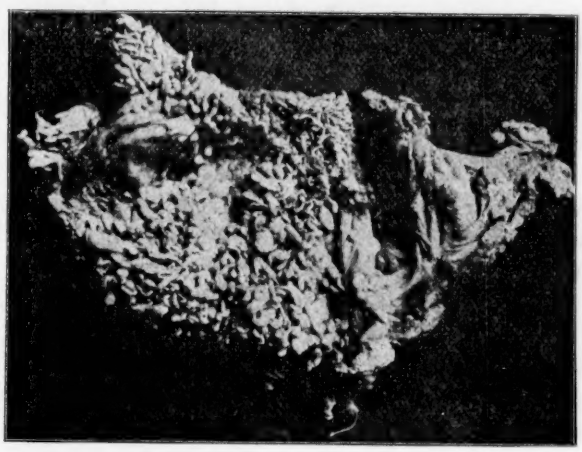
Microscopic Examination.—The base of the tumor is composed chiefly of fatty tissue, and projecting from this are innumerable villi of various sizes. Throughout this fatty tissue are scattered small areas of fibrous connective tissue, and very numerous groups of round cells. A few of these groups of small round cells show a typical arrangement of giant and epitheloid cells in the center and a border of lymphoid cells. The larger villi are composed of fatty tissue, with irregular areas of lymphoid cells, richly supplied with blood vessels, and an outer layer of connective tissue cells. Many of the smaller villi show very little or no fatty tissue, being composed chiefly of lymphoid cells surrounded by connective tissue cells. Several sections were stained for tubercle bacilli, but none was found. The specimen having been kept in formalin for several months prior to the examination would probably account for the failure to demonstrate the tubercle bacilli.

Diagnosis.—Lipoma arborescens tuberculosum.

True lipomata of the knee joint have been observed. Riedel[1] reports two cases of this nature which were removed from the knee joint. They were both about the size of a walnut. In one of these cases the tumor sprang from the anterior surface of the femur, the other from the lateral surface of the patellar ligament. Koenig[2] explains the etiology of this condition, stating that in consequence of an overextension of the leg the sudden stain thrown on the fascia lateral to the patella would result in a tear of the synovial membrane, thus permitting the entrance of the extra articular fat into the joint. Here the nucleus for the development of a neoplasm is formed. If this be the correct etiology, this condition can hardly be classified with the new growths. In the "lipoma arborescens," as first described by Johannes Mueller,[3] a case is reported, characterized by the development of innumerable villi, which have undergone a fatty transformation, the process being considered a true lipomatosis of hypertrophic synovial villi. Schmolck[4] speaks of this condition as a "Lipomasie der Gelenk Zotten."

In consequence of impaired nutrition and diminished circulation, this process may become infected with the bacillus of tuberculosis, when there develops the "lipoma arborescens tuberculosum." This condition has been exhaustively described by Schmolck, who reports two cases of this disease, presenting excellent illustrations. In these cases, as well as the cases subsequently reported by Israel,[5] Von Brun,[6] Stieda[7] and Painter,[8] the true pathologic nature of the growth has been described.

The first case reported by Schmolck consisted of a tumor of the knee joint, and was composed of numerous villi of various shapes and sizes, several of them attaining the size of the thumb. On the surface of these villi minute tubercles could be seen macroscopically. The microscopic picture was that of tuberculosis. The



Bacillus tuberculosis could also be demonstrated. In this case the joint contained no fluid, but in the second case considerable fluid was found. In the latter case the villi were not so large, but were of the same character.

Stieda reports two cases of his own, and reviews the literature quite exhaustively. His conclusions are reported in detail by Painter.[8] The latter reports seven cases of lipoma arborescens operated on by himself, with gratifying results. His conclusions are, in the main, in accord with those expressed by Stieda, but he believes tuberculosis to occupy a less prominent place in the etiology of this condition than does Stieda. Painter advocates the early opening of the joint, when the absence of clinical evidence of joint disease leads to the diagnosis of non-tubercular affection.

1. Riedel: Deut. Zeit. f. Chirurgie, bd. x, p. 371.
2. Koenig: Ibid.
3. Joh. Mueller: Pitha and Billroth, vol. ii, p. 576.
4. Schmolck: Deut. Zeit. f. Chirurgie, vol. xxiii, p. 273.
5. Israel: Handbuch d. Prakt. Chir., vol. iv, p. 369.
6. Von Bruns: Ibid.
7. Stieda: Beitr. f. Klin. Chir., xvi, p. 1896.
8. Painter: Boston Med. Jour., March 19, 1903.

In Anesthetizing.—Never forget that the safest anesthesia is surgical anesthesia, steadily maintained. Never forget that the least quantity of anesthetic which will secure this is the best. Never forget that Waller was right in saying that "Death is nearly always due to unskilful administration, and that is the administration of an overdose."—Stone in *Colorado Medical Journal.*

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SATURDAY, JANUARY 23, 1904.

IMPROVED TECHNIC FOR NERVE TISSUE EXAMINATION.

The invention of a new technical method is often of the greatest importance for the advancement of our knowledge of the minute structure of the human and animal body, for a method once devised by a single investigator may be applied by hundreds of others to the solving of special problems. So important is the extension of technic that a number of the ablest investigators, among whom as especially noteworthy Carl Weigert of Frankfort may be mentioned, devote nearly all their time and energies to this phase of science.

Particularly in the study of the structure of the nervous system is the influence of the introduction of special methods easily discernible. As a matter of fact, most of our newer knowledge of neural anatomy can be grouped around the methods of Flechsig, of Weigert, of Marchi, of Golgi, of Nissl and the methods of Apathy and Bethe. Especially fruitful was the modification of the Golgi method, devised some fifteen years or more ago by the distinguished Spanish investigator, Ramon y Cajal. His "rapid process" applied to embryonic tissues and the nervous systems of the newly born, revolutionized our ideas of the structure of the central and peripheral nerve organs and gave to the study of the histology of the nervous system an impetus so great that it is still felt in all quarters of the globe.

This autumn Ramon y Cajal has published the details[1] of another method applicable to the study of the nerve tissues, but this time not for the demonstration of the external morphology of the nerve cells and fibers, but for revealing those extremely delicate intraprotoplasmic structures, the neurofibrils of Apathy and Bethe. The methods for studying these fibrils employed hitherto—those of Apathy, Bethe, Simarro and Donaggio—have all been exceedingly unsatisfactory, owing to either inconstancy of result, complication of technic or limitation of applicability to single portions of the nervous system or to the neural tissues of only certain of the animal series. The new method of Ramon y Cajal does away with all these difficulties. It yields constant results, is simple, and is equally applicable to the tissues of man and animals down even to invertebrate forms. Moreover, it stains the neurofibrils from the time of their first appearance onward, so that we now have the means of determining both the histogenesis and phylogeny of these remarkably attenuated structures which exist within the protoplasm of the nerve cells. The details of the method are given in the article referred to. Suffice it here to say briefly, that it consists of impregnation with silver nitrate and subsequent reduction with a solution of pyrogallic acid.

One of our contributors, recently in Madrid, visited Ramon y Cajal's laboratory, and was shown the neurofibrils stained in a whole series of nerve-cell preparations of the most varied origin. The single threads stand out distinctly, stained dark brown coffee or chocolate color. Two kinds of neurofibrils can be made out: 1. Large primary fibrils which pass from one dendrite into another. 2. Small, pale granular secondary fibrils which anastomose with the primary fibrils and give rise to a complicated intraprotoplasmic network.

The significance of the neurofibrils is as yet entirely obscure. Apathy and Bethe regard them as the conducting elements of the nerve-cell protoplasm, but the evidence in favor of such a view is far from convincing; indeed, many of the best authorities regard the theory that the intraprotoplasmic fibrils conduct, as improbable. Further studies of these interesting features of the nerve cell will be awaited with interest.

1. Ramon y Cajal S., Sobre un Sencillo Proceder de Impregnacion de las Fibrillas Interiores del Protoplasma Nerviosa. Arch. Latinos de Med., y de Biol., vol. I. 1903, Madrid.

OYSTERS AND TYPHOID FEVER.

The towns known as "The Oranges" in New Jersey have been suffering from more typhoid fever than usual this year, and a recent increased prevalence of the disease led to a careful investigation by the health board of the city of Orange. As is usually assumed, this increase was at first attributed to the water supply. Careful bacteriologic investigation, however, failed to confirm the suspicion of possible sewage contaminations of the drinking water of the town. It was found, however, on investigation, that a number of the patients suffering from typhoid fever had been hearty eaters of raw oysters, especially in the period shortly before their fever manifested itself. The local health officer declares that "careful investigation has confirmed us in the belief that the present outbreak of typhoid fever has resulted from the consumption of oysters procured from infected beds."

This is, of course, not the first time that such an origin of typhoid fever has been suggested, but it should recall attention to the present methods of marketing oysters. Unfortunately many people seem to regard the plump white oysters, so often served now in restaurants, as preferable to the grayish, rather thin oysters that the gourmet of a few years ago was accustomed to consider the luscious delicacy best suited to his taste. Because of this false taste, oysters are bleached and rendered plump by dealers on the way to local markets. Normally oysters are accustomed to sea water. If they are removed therefrom and placed in fresh water for a time, they become much whiter than before

and apparently grow fat. This plumpness, however, is not due to any addition of substantial material to the oysters' tissues, but only to the retention of more water than under natural circumstances. In a word, it is a question not of digestion of food and consequent accumulation, but rather a freak of osmosis. In order to secure this specious appearance of plumpness, oysters are not infrequently placed in fresh-water streams for a time before being served. Needless to say, with the present increase of population in this country, there are very few fresh-water streams that are not subject to contamination by sewage. Owing to the fact that oysters gather their food from water that flows by them, they are sure to retain any organic particles present, and typhoid bacilli thus find not only lodgment but a favorable culture medium in the oyster tissues. The fresh water apparently renders digestive processes in the oysters so sluggish that bacilli thus retained are not digested, as would be the case under normal conditions of life, but, on the contrary, actually increase in numbers, leaving the host still more incapable of resisting invasion.

It would, therefore, seem rather important that, first, the present mistaken taste for bleached, plump oysters, which any connoisseur well knows are by no means equal to the thinner, grayish oyster fresh from the sea water, should be corrected; second, the present habit of dealers in supplying this false taste of their patrons should be officially discouraged, if not actually forbidden. Those who feel they must indulge in the luxury of uncooked oysters should be careful to know the source of the bivalves supplied them, and especially whether the bleaching, fattening process has been carried out in water that is above suspicion. These precautions are even more important in the inland towns at a distance from the seacoast than near the fishing beds of the oyster, because when oysters are shipped to some distance they take on an even flabbier appearance than normal, and dealers are tempted to improve their looks by the often dangerous process of immersion in fresh water.

DOES IT PAY TO BE A DOCTOR?

From the heart of one who loves his fellow-men comes the latest tribute to the life of the real physician. Calm and dispassionate, but with a keen appreciation of the noblest ideals which we ourselves are so fond of holding up, Arthur Goodrich, in *Frank Leslie's Popular Monthly* for February, discusses: "Does It Pay to be a Doctor?" It will please every physician—even those for whom a veiled shaft is drawn—for it is so sensible. The following is worth quoting:

> The renowned physician started to study his profession late in life. He worked to make himself most helpful in his private practice, then to hospital patients, and finally as a professor to the young men who were beginning the long, uphill journey he had made. He has worked as nearly all of the so-called "big men" have worked, with philanthropic intent. He has an income of, perhaps, $60,000. The second man started work early; he has done a great deal of good, but his eye has been constantly reflecting the glitter of golden profit. He has an income of about $4,000.
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> This, then, is the rock—the rock of money madness—on which the profession splits into professional doctors, merchant doctors and quacks. Of these the profession recognizes only the first, and draws rigid lines against the other two. Among reputable physicians there are, of course, many who have as acute an itch for money as a Wall Street broker—the doctor who said "charge big fees" is a reputable practitioner in the profession—but every doctor is a member of a vigilance committee against commercial methods, and the hand of the profession, through the county medical societies and other organizations, holds the men in line. Every doctor knows that once a man is cast out it is almost impossible for him to regain his standing in the profession, the standing he has worked years and spent thousands of dollars to obtain.

The commercial physician, the quack and the patent-medicine parasite are all valued at their true worth, and the author apparently draws the line from experience, such as the writer ought to have who essays to write such an article. While most of the statements in the article are correct, it is an overstatement to say that there are 200,000 physicians in the country. The overcrowded condition, bad enough as it is, is not so bad as that.

Mr. Goodrich calls attention to the required four years of academic work, four years more of grinding work in a medical college, two years of practical experience in a hospital, and then the sitting down to wait—for the physician can not go out after patients. Then there is the building up of a practice, slowly and by reason of worth and personality, while he fills in his odd time by perfecting his knowledge. After the practice is acquired, the average physician has only an income of $750. Large financial awards come to few men in the practice of medicine. Large fees, though justified, are frowned on by an inconsistent public, and the safeguards which the medical profession itself has erected to wall off commercialism holds the physician back from competence—to say nothing of a comfortable income.

Thus Mr. Goodrich answers the question from one viewpoint, but from another he paints the beautiful portrait of a true physician. "Anyone who sees a physician's work at close range knows that he spends hours of conscientious labor for which he never means to get money returns. The dispensaries and hospitals are filled constantly with sick who can not pay, and be it said, to the shame of the public, with sick who can pay as well." In every other profession general publicity is looked on as legitimate, but for the physician any kind of personal publicity is looked on askance by the profession. The profession looks on its work as private with its patients. Physicians publish valuable results for other physicians to use. "Hundreds of physicians and surgeons are constantly doing things that are really great and the public has never heard of them and probably never will, but the profession knows and respects them." The editor says in an introductory paragraph:

> There is no group of men of like importance in this country whose pictures and personalities are so unfamiliar to the public as those of our distinguished physicians and surgeons. The fact is a striking commentary on the unique conservatism

which has marked a single profession apart in our commercial age.

The two closing paragraphs are as follows:

There are, however, other rewards, not for the doctor who plays politics or who uses "judicious advertising" without being caught, but for the conscientious, earnest man, "what amplest recompense!" Saving lives by quiet heroism, healing the sick, lengthening and lightening the days of many a chronic sufferer, daily deeds of kindness and charity, constant self-sacrificing service; these form a heritage that money can scarcely measure. An old and successful business man, after a conversation with a poor country doctor whom he knew as a boy, remarked with a tremble in his voice, that cried sincerity: "I'd give all I've got for that man's memories."

Did you ever see a surgeon at work and feel the calm with which he unostentatiously does wonderful and dramatic things? Have you ever met a good doctor of experience and failed to feel his usually quiet, dignified, forceful personality, with the sentimental edges knocked off by rugged experience, but with sympathies, quickened and chastened by suffering? He is certainly different from the everyday man with whom you do business. Is it true that he is a dying relic of an "old school," or is he one of the bands between the old and a more vital future which will have in it the vigor and progressiveness of the present day, ripened and mellowed with old-time gentleness and charity?

INHERITED TUBERCULOSIS.

The old notion of the direct heredity of consumption has been very generally treated as exploded since the discovery of the bacillus by Koch, and it is almost a point of faith at the present time to deny anything more than the remotest possibility of such heredity. The most that is usually admitted is that predisposition may exist, but that this may be counteracted by environment and proper treatment. Certain clinical facts, however, have still led some persons to maintain that the danger from communicable disease is on the whole less serious than from consumptive ancestors, whether the germs were transmitted directly or not. Thus, in an article published in THE JOURNAL[1] on conjugal tuberculosis, Bannister came to the conclusion that it was far more dangerous to have a consumptive parent than a consumptive wife or husband. Constitutional predisposition was credited in these cases, not the transmission of the germ. The latter, though known to be possible, was considered to be one of the rarest of happenings.

In a recent article,[2] however, Warthin and Cowie bring out certain facts which seem to point to the possibility of the direct transmission of the disease from parent to child, and that it may be of much more frequent occurrence than has been of late years suspected. After a careful study of the reported case and a detailed report of the postmortem findings, they conclude that placental tuberculosis is by no means only a rare possibility. In their case there was a general miliary tuberculosis of the mother with abortion and death at the fifth month, tuberculous thrombosis of the placental sinuses and intervillous spaces, tuberculosis of the placenta, tuberculous thrombi in the fetal blood and the presence of free tubercle bacilli in the fetal circulation without histologic change. They point out that the presence of tubercle bacilli in the maternal sinuses and in the intravillous spaces is a point of great significance, and that if the germs gain access to the circulation they will naturally tend to collect in the placental sinuses, there to give rise to pathologic disturbance. If their occurrence is possible in such great numbers, as in this case of miliary tuberculosis, is it not also probable, they ask, that, in cases of chronic or local maternal tuberculosis in which bacilli pass into the general circulation, the germs may collect in like situations and their future development depend on their ability to multiply? It may be perhaps assumed that the germicidal action of the blood will suffice to inhibit or destroy small numbers. If multiplication, however, does take place and agglutination and coagulation of the blood result, it is probable that these processes serve, within certain limits, to protect the placental tissue, but the authors referred to do not consider it safe to say that an intact syncytium will not permit the passage of bacteria. This, however, is not of such great importance if a denuded surface will permit the passage of bacteria. From its earliest period the chorion shows progressive atrophy and growth. Anemic infarcts are constantly present, and through such damaged areas bacillary transmission may occur. In the later months of pregnancy the placenta is a senile organ with many vulnerable points and many opportunities for the passage of germs. The fact that the bacillus may be present in such numbers in the fetal circulation without causing changes other than those of thrombosis is noted as apparently remarkable, and several theories are suggested to account for it. There may have been a very recent passage of bacilli through the placenta, or diminished virulence may be assumed or relative or absolute immunity on the part of the fetal tissues. The second possibility may be thrown out, as the germs showed full virulence in inoculation experiments. The question of immunity of fetal tissues will have to be settled by further investigations, but Warthin and Cowie think, if it can be proved that such an immunity exists and that tubercle bacilli may live for some time in the fetal tissues without causing histologic changes, the theory of latent congenital tuberculosis will receive a tremendous impulse. There are certain reasons for suspecting that such latency may exist, and cases have been reported, such as one referred to, by Doleris and Bourges, in which such a latency of tuberculosis seemed very probable. The apparent immunity, moreover, of the fetal tissues to certain poisons is well known.

Latent congenital tuberculosis, therefore, they conclude, is both possible and probable, and it is not unlikely that it is of much more common occurrence than is usually supposed. If we accept these facts and the deductions of the authors, it would seem that we shall have to revise one of the commonly accepted notions at the present time, namely, that of the rarity of transmitted

1. THE JOURNAL A. M. A., April 13, 1901, vol. xxxvi.
2. Journal of Infectious Diseases, January 2.

congenital tuberculosis. At all events, the paper is one that should leave an open mind in regard to the subject for future investigations to satisfy more or less thoroughly. There is evidently a need of further study, and perhaps one more disputable point has been added to the many that now exist in regard to tuberculosis.

THE PRICE OF DIPHTHERIA ANTITOXIN.

Newspapers have had much to say, in the past few days, in regard to an antitoxin trust and the rise in price of antidiphtheritic serum. Much of what has been published has been of the sensational order, naturally. It is only fair that both sides of any question be considered before deciding pro or con, and with this in view THE JOURNAL has corresponded with three firms manufacturing this article, and has conferred with members of the Health Department of the City of Chicago, and with others interested.

It is denied by two of the firms that any combination of manufacturers of antitoxin has been formed, and it is asserted by all the firms that the price of the serum, "quality considered," is not higher, but lower than formerly. Until recently two grades of antidiphtheria serum have been on the market—a concentrated serum and a weaker one. The latter is no longer manufactured, and only the concentrated can be obtained, this being supplied in 1,000, 2,000, 3,000 and 4,000 units packages. Bulbs containing, respectively, 500 units and 1,500 units are no longer supplied. We quote below from the price lists of one firm, which are about the same as those of the others:

1903 PRICE LIST.

Number of Units.	"X" Prices.	"XX" Prices.
1,000	$1.50	$2.25
2,000	3.00	4.00
3,000	4.50	5.75
[4,000	Not listed	Not listed]

Twenty per cent. discount to the retailer; 33 1/3 per cent. to the wholesaler.

1904 PRICE LIST.

Number of Units.	List Price.
1,000	$2.00
2,000	3.50
3,000	5.00
4,000	6.50

Twenty-five per cent. discount to the retailer; 33 1/3 per cent. to the wholesaler.

It will be seen by comparing the price lists for the two years that there is an apparent small reduction in the price of the concentrated serum. We understand that the Health Department of the City of Chicago has been supplied in times past with the less concentrated or weaker serum, and this at a figure lower than that listed to wholesale druggists, the various manufacturers making bids for furnishing the serum. It is asserted that the Health Department has received such a discount that it only paid for 1,000 units, $0.57; for 2,000 units, $1.14; for 3,000 units, $1.71. If these figures are correct it is plain that the cost of the serum to the city will be twice that of last year, even with the same discount, because nothing but the concentrated serum can be obtained.

Now comes the question of the relative value of the two grades of serum formerly manufactured. Would 1,000 units of the weaker serum do the work of 1,000 units of the concentrated serum? Is the concentrated serum more reliable than the less concentrated, or is it merely more convenient as it is much less bulky? If the weaker serum is unreliable, it is well that it is no longer on the market, but if it has been found satisfactory, then its removal from the market forces the use of the more expensive serum, simply because concentration makes it more convenient to administer. Is it possible that the Health Department in previous years has been supplied with an inferior grade of serum in order to meet competition prices? We hardly like to think so. On the contrary, we understand that the serum used by that department has been perfectly reliable and satisfactory.

Can it be that, even at the low figure of 57 cents per 1,000 units, that the manufacturers realized a marginal profit, or are we to believe that the firms supplying the city with antitoxin have been doing charity work? Possibly the opportunity to advertise their goods was an inducement to make the special discount of some 62 per cent., whereas even the wholesalers are reported to have had only 33 1/3 per cent.

With the variable scale of discounts given in the past, we are inclined to infer that there must have been a large profit in the manufacture of antitoxin, especially when sold at the smallest discount, e. g., 20 per cent. to the retailer.

Judging from the correspondence before us and from the information which we have concerning the manufacture of antitoxin, we can not but believe that the prices of antitoxin have been and are higher than is necessary for a reasonable profit. We say this, realizing full well the great responsibility that rests on those who undertake to supply this most valuable therapeutic aid. Further, we can not believe that the firms supplying the Chicago Department of Health at over 60 per cent. discount from former prices were losing money.

Physicians are especially interested in this matter, not only because they want a city health department to secure the means of saving lives at a reasonable expense, but because they have the welfare of their patients at heart, many of whom, unable themselves to pay for antitoxin, are supplied at the physician's expense. But under no circumstances must it be thought that physicians want a cheap antitoxin; it must be good and reliable under all circumstances, no matter what the cost.

FIRE RISKS IN COLLEGE AMPHITHEATERS.

These are the days of building inspection, revision of law, installation of fire-prevention devices and polishing rusty exit hinges. Shocked by the sacrifice of more than half a thousand lives in the Iroquois Theater fire in Chi-

cago, the whole country is emphasizing that all buildings used for concourse shall be provided with adequate fire protection and means of escape. There is a class of buildings which has not, to our knowledge, been mentioned in the overhauling process now going on. In many medical colleges may be found amphitheaters on the third or fourth floor, seating, in some instances, hundreds of people, and lacking adequate means of exit. Many of these are in buildings whose interiors are wooden and of quick-burning construction, the stairways are few, narrow and winding, and the doors are small. On extraordinary occasions these amphitheaters are crowded to the limit, the halls below are deserted, and a fire under the right circumstances might cut off means of escape. An inspection of some of these buildings will reveal conditions alarming to those who have not heretofore viewed them with this possibility in mind. Because no terrible disaster has ever occurred is no reason that one may not occur. It would be well for those responsible for these buildings to, at least, take a look around and consider the possibilities.

THE VALUE OF THE PHYSICIAN'S SERVICES.

The charge to be made for professional services will necessarily vary with a number of different conditions. This proposition is recognized in the practice of the law, and it should be equally so in that of medicine. Occasionally a judge on the bench may decide differently, but a moment's reflection will show the error of such a decision. There are to be taken into account especially the nature of the case, the character of the treatment to be pursued, the time consumed, the skill of the physician, and also the station—public and private—of the patient. The physician is, by force of circumstances, compelled to have a varying fee even for similar service. He can not elect to treat only the rich; neither can he afford to treat only the poor. He gives much of his service gratuitously, so that none is deprived of the opportunities for relief afforded by his skill and ability. For these reasons the physician's fee can not be a fixed and inflexible one. This would seem to be the view held by Judge Ashman of Philadelphia, as expressed recently in a decision rendered in the Orphans' Court: "The life of a rich man," he said, "is worth more than the life of a poor man, and the physician has a right to charge the millionaire more for his services than he does the laborer. . . . The physician is unlike the merchant, who has goods of different quality to sell at various prices. He must give his best service in every case. But it does not follow that the service is worth the same in every case. . . . Human life has a pecuniary value of variable quantity, greater in the millionaire than in the laborer. Thus, the practitioner of common sense has a maximum and a minimum charge and makes out his bills to suit the pecuniary circumstances of the patient."

NEW YEAR CHANGES IN OUR FOREIGN EXCHANGES.

All our foreign exchanges show renewed vitality and improvement along various lines with the opening of the new year. The *Medizinskoe Obozryenie*, which Dr. Sprimon of Moscow has conducted so ably since he founded it thirty years ago, has been acquired by the Moscow Medical Society, but he will continue his editorial supervision. The *Presse Médicale* enters its eleventh year with several improvements, and the *Deutsche medicinishe Wochenschrift* has reorganized some of its departments and enlarged them all, as has also the *Münchener medicinische Wochenshrift*. The *Semaine Médicale* continues its serene course of restricting its size to twelve pages a week, and publishing only what it sifts out of the overwhelming material which each week offers. It still continues its remarkable practice of editorial abstracts of prominent articles published elsewhere, refraining from citing the authority. The series of letters from America is concluded. It has been as satisfactory as could be expected from a young and credulous physician traveling over a foreign land. The impressions derived from such a trip depend on the personal bias of the various natives the traveler happens to encounter, and their greater or less fondness for joking. The wonderful strides that have been made in the medical sciences in the last few years compel the ambitious physician to read about what is being done everywhere or he will soon be left hopelessly in the rear. Consequently the medical press everywhere feels this impetus and stimulus.

THE PUBLIC PRESS COMMITTEE.

There is a function of the county medical society which is as yet not fully utilized, but which is sure to become more widely exercised when the machinery now being adjusted is in better working order. We refer to the "public press committee" of a society to contribute to newspapers articles unsigned as individuals, bearing on current medical and sanitary topics that will be of interest to the general public. The *Cleveland Medical Journal*[1] said recently: "The Newcastle County (Delaware) Medical Society has for some months had such a committee, which is doing excellent service to the profession and to the public." One needs only to glance at the average newspaper or popular journal to realize that there is a demand for this sort of information. Papers have columns headed "Talks with the Doctor," "Medical Items," "Department of Hygiene," etc., and it is certainly to be deplored that newspapers, in their inability to secure this information from reliable sources, have opened their columns to the advertising quack and to the man who is only a little "off color," but who is unwisely ready to furnish a medical article over his own signature. The fact that the articles are often full of errors and painfully exhibit a lack of education on the part of the author, only emphasizes the need of a public press committee. Instead of the antagonism, which so often exists, there ought to be harmony and co-operation between the ethical physicians of a community and its newspapers. As rapidly as societies can arrange the matter, certain ones should be designated to perform this office, and it certainly will tend toward a greater harmony between physicians who shun publicity and newspapers whose business is publicity.

1. November, 1903.

Medical News.

ILLINOIS.

Physician's House Burned.—The house of Dr. George T. Rowland, Martinsville, with all its contents, was recently burned.

Smallpox at Sandoval.—Public schools at Sandoval have been closed and general vaccination has been ordered on account of an epidemic of smallpox.

Operation on Rockford Physician.—Dr. Arthur F. Comings of Rockford was operated on January 14. The operation revealed pancreatitis, multiple abscesses of the pancreas and cholelithiasis. Dr. Comings rallied well after the operation.

Chicago.

Many Patients Treated.—The annual report of the Hospital of St. Anthony of Padua shows that during the year 1,099 patients were treated.

Will Rebuild Hospital.—Michael Rees Hospital is to be rebuilt at a cost of more than $250,000. A special committee of the United Hebrew Charity Association has raised $145,000 of the amount.

Chirography Expert Dead.—Henry L. Tolman, noted as a microscopist, and an expert in handwriting, professor of medical jurisprudence in the University of Illinois Medical Department for many years, died at his home in Evanston, January 14, after a long illness, aged 55.

Operation on Dr. Andrews.—On January 16, Drs. E. Wyllys Andrews and Frank T. Andrews operated on their father, Dr. Edmund Andrews, for vesical calculus. The venerable patient rallied well from the operation, and is making satisfactory progress toward recovery.

Must Muzzle Dogs.—The city council passed an ordinance, January 18, on lines suggested by the Chicago Medical Society, providing that dogs must be muzzled all the year round, unless led by a chain. The fine for violation of this ordinance is to be not less than $2, nor more than $10.

Deaths of the Week.—During the week ended January 16, 566 deaths were reported, a mortality of 15.14 per 1,000 per annum. Pneumonia led with 117, followed by consumption with 64, heart disease with 50 and Bright's disease with 45. For the corresponding week of last year the death rate was 17.31 per 1,000.

Inspection of Hospitals.—Another and more rigid inspection of private hospitals, with special reference to their precautions against fire, was begun during the week. The last previous inspection, in the spring of 1902, was made by the building department alone. The one now being made is under the joint direction of that department and the department of health—a building inspector and a medical inspector working together in each investigation and making joint reports to each department. In this way it is hoped to secure better results in the matter of prompt remedy of defects discovered.

MARYLAND.

Smallpox.—Dr. Otis B. Stone, Libertytown, is reported to have contracted varioloid from attending a smallpox patient.

Registration of Nurses.—A bill has been prepared by the Maryland State Society of Graduate Nurses to be introduced at the present meeting of the legislature, providing for state registration of nurses.

Recommends Discontinuance of Appropriations.—The Board of State Aid and Charities, in its report to the legislature, recommends that the appropriations to the medical schools be discontinued, also those to the Baltimore University Hospital, Franklin Square Hospital, attached to the Maryland Medical College, and the hospital of the Woman's Medical College.

County Hospital and Pensions.—At a meeting of the Washington County Medical Society, January 13, a committee was appointed to consider the advisability of establishing a county hospital. Another committee was appointed to frame a bill to be presented to the legislature for the reorganization of the outdoor pension system and medical care of the poor. It is proposed that all cases be investigated by inspectors as to their fitness to receive charity, and that physicians in each district shall attend the indigent sick at county expense.

Report of Hospital.—The report of Springfield Hospital for the Insane shows 509 patients there October 1. Of those discharged 28 had recovered, 10 were improved, and 1 escaped and was declared not insane by a jury. The percentage of cures to admissions was 21.05 of males and 16.43 of females. There were 20 deaths, 10 male and 10 female. Dr. Clark says there is a crying need for a hospital building for each sex for acute cases; also of an isolation ward, without which they are completely at the mercy of an epidemic. Tubercular cases are isolated in tents and epileptics in cottages. Insanity is greatly on the increase.

Baltimore.

Mortality from Lung Diseases.—There were 228 deaths last week, pneumonia causing 38, consumption 31, and bronchitis 14.

Bequests.—The late John E. Hurst, millionaire merchant, left $30,000 to the United Charities Hospital at Cambridge, and $1,000 to the Church Home and Infirmary of Baltimore.

Hebrew Hospital Report.—Dr. Samuel L. Frank, president, reports 243 patients treated last year at the Hebrew Hospital, and in the dispensary thereof, 8,934. Legacies and donations were received amounting to $3,610.

Election.—At the annual meeting of the Baltimore Medical and Surgical Association, January 11, the following officers were elected: Dr. James M. Craighill, president; Drs. William B. Perry and John T. King, vice-presidents; Dr. Eugene L. Crutchfield, secretary; Dr. Nathan Winslow, treasurer; Drs. Edward L. Whitney, Joseph H. Branham and Martillus L. Todd, executive committee, and Drs. Wilmer Brinton, Daniel L. Dunnott, and Isaac R. Trimble, committee on honor.

Personal.—Dr. William H. Welch has been re-elected president of the State Board of Health.——Dr. William T. Howard celebrated his eighty-third birthday, January 12, by a dinner to his professional friends.——The supervisors of city charities have established a free medical agency in the northwestern section, with Dr. Henry M. Fitzhugh in charge and Dr. Katie De Sales Kelley, assistant.——Drs. H. M. Baxley, L. E. Beach and Edward E. Mackenzie have been elected physicians to the Baltimore General Dispensary.

Statistics of Tuberculosis.—The statistics of tuberculosis prepared for the exposition to be held January 25-31, show some interesting and startling facts. The death rate from tuberculosis per 10,000 of the population is 20 for whites and 40 for the colored race in Baltimore, and in the rest of the state 12 for whites and 29 for colored. One in every 10 deaths among the whites is due to consumption, and one in every 6 or 7 among the colored is due to the same cause. The following is the order of mortality from tuberculosis: District of Columbia, 30.52 per 10,000 population; Rhode Island, 19.53; New York, 19.41; Massachusetts, 18.62; New Jersey, 18.01; Maryland, 16.94; Connecticut, 16.83; Maine, 16.49; Vermont, 15.25; New Hampshire, 15.23. The exposition will open with a public meeting, January 25, and addresses by the governor, late governor, mayor, secretary of the State Board of Health, and president of the commission. Mr. Frederick Hoffman, secretary of the Prudential Life Insurance Company of Newark, N. J., will also speak on "Statistical Laws of Tuberculosis." A public meeting will be held daily at 5 p. m.

MICHIGAN.

Schools Closed.—At Ovid, scarlet fever is so prevalent that it has become necessary to close the schools.

Personal.—Dr. Samuel Schultz has been appointed health officer of Coldwater, vice Dr. Daniel D. Cunningham, deceased.

Smallpox.—Osceola County has 28 persons in quarantine.——Marshall has 8 cases and individuals under surveillance.——In Covert there are 10 cases, and many families in quarantine.——A case is reported at Muskegon.

Prevalence of Disease.—Reports to the State Board of Health from representative general practitioners throughout the state show that the chief diseases in order of prevalence for December were as follows: Rheumatism, bronchitis, neuralgia, tonsillitis, influenza, nephritis, tuberculosis, pleurisy, pneumonia, typhoid fever, diarrhea and scarlet fever.

Comparative Morbidity.—For December, 1903, compared with the average for December in the last ten years, inflammation of kidney, typhoid fever, scarlet fever, smallpox, meningitis, and cholera infantum were more than usually prevalent, and diarrhea, erysipelas, intermittent fever, inflammation of bowels, measles, remittent fever, whooping cough, inflammation of brain, puerperal fever and cholera morbus were less than usually prevalent.

The Most Dangerous Communicable Diseases.—Meningitis was reported present in Michigan during December at 9 places, whooping cough at 19 places, measles at 62 places, smallpox at 90 places, diphtheria at 100 places, typhoid fever at 117 places, scarlet fever at 172 places and consumption at 201 places. Meningitis was reported present at 5 places more, whooping cough at 3 places more, measles 31 places more,

smallpox 37 places more, typhoid fever at 37 places less, diphtheria at 20 places more, scarlet fever at 50 places more, and consumption at 8 places more than in the preceding month.

December Mortality.—There were 2,942 deaths returned to the department of state for December, or 319 more than reported for the previous month. The death rate was 14.1 per 1,000 population, as compared with 12.9 for November. There were 490 deaths of infants under 1 year, 191 deaths of children aged 1 to 4 years, and 944 deaths of persons aged 65 years and over. Important causes of death were as follows: Tuberculosis, 191; typhoid fever, 48; diphtheria, 96; scarlet fever, 17; measles, 16; whooping cough, 23; pneumonia, 376; influenza, 49; cancer, 151; accidents and violence, 182. There was a decrease in the number of deaths reported from typhoid fever, and the usual seasonal increase in deaths from pneumonia and influenza. There were no deaths from smallpox during the month. One death from chicken-pox was reported.

MINNESOTA.

Quarantine Lifted.—The Duluth Board of Health has issued orders allowing 23 children under quarantine for diphtheria or scarlet fever to resume attendance at school.

Personal.—Dr. Llewellyn D. Peck, health officer of Hastings, has been elected physician for Dakota County.——Dr. Harry W. Darby, Minneapolis, has sailed for Europe.

Crusade Against Spitting.—The campaign against spitters began in earnest in St. Paul, January 15. Spitters were forced by health officers to take out their handkerchiefs and mop the sidewalks they had befouled. On January 18 the inspectors began to arrest offenders. Health Commissioner Ohage is taking a wide interest in the campaign.

Regulation of Tuberculosis.—The assembly committee on streets has ordered a favorable report on Dr. E. H. Whitcomb's ordinance for the regulation and prevention of tuberculosis in St. Paul. Dr. H. M. Bracken, secretary of the State Board of Health, urged the adoption of the ordinance on the ground that under its provisions the city health department will be able to keep a record of tuberculosis cases, and to prevent infection by requiring vacated premises to be disinfected. The ordinance declares tuberculosis an infectious and communicable disease and requires reports to the health commissioner from physicians and managers of hospitals of all cases coming under their observation. In case a tuberculous patient vacates a residence, the owner of the premises is required to disinfect the same under direction of the health department. Should the owner fail to comply with this provision the health commissioner is directed, after 36 hours' notice, to placard the premises as unhealthful and unfit for occupancy.

NEW JERSEY.

Circus Aids Hospital.—The amateur and professional circus in aid of St. Joseph's Hospital, Paterson, netted $1,500 to the institution.

Anti-Vaccinationist Has Smallpox.—Dr. Allen S. Ironside, Camden, prominent as an opponent of vaccination, is ill with smallpox, and is under quarantine at his home.

Barker Memorial Unveiled.—The memorial tablet to the late Dr. Phanett C. Barker was unveiled, January 11, at the Barker Pavilion for Contagious Diseases of the Memorial Hospital, Morristown.

Want Health Board of Physicians.—The Practitioners' Club of Jersey City announces that it is about to start a movement for a new board of health, composed entirely of physicians.—— The Passaic Medical Society has passed resolutions asking the mayor-elect to appoint physicians as members of the board of health.

Society Election.—At the annual meeting of the Atlantic County Medical Society the following officers were elected: President, Dr. Theodore Senseman, Atlantic City; vice-president, Dr. Edmund A. Madden, Absecon; secretary-treasurer, Dr. Edward Guion; reporter, Dr. A. Burton Shimer; board of censors, Drs. Edward A. Reiley, Edwin H. Harvey, and William M. Pollard; delegates, Drs. Elisha C. Chew and J. C. Marshall, and alternates, Drs. Wait P. Conaway and M. LeRoy Somers, all of Atlantic City.

NEW YORK.

Bequest to Medical College.—By the will of former congressman James J. Belden, Syracuse, $50,000 is devised to the College of Medicine of Syracuse University.

Tuberculosis Pavilion at State Hospital.—The State Lunacy Commission will erect a pavilion for the care of patients afflicted with tuberculosis on the grounds of the St. Lawrence State Hospital, Ogdensburgh. For that purpose $30,000 has been appropriated.

Medical Society of the State of New York.—The ninety-eighth annual meeting of this society will be held in Albany, January 26, 27 and 28. Especial interest is centered in this meeting, owing to the fact that final action is expected to be taken in the matter of the combination of the two state medical organizations.

Personal.—Dr. Donald L. Ross has resigned his position on the staff of the Willard State Hospital, and has accepted the position of first assistant physician at the Craig Colony, Sonyea.——Dr. Newell E. Landon, Newark, recently suffered severe injuries in a runaway accident.——Dr. J. Wilson Poucher has been appointed surgeon of the Fifteenth Separate Company, N. G., N. Y., Poughkeepsie, vice Dr. John A. Card, resigned.—— Dr. H. Wardner Eggleston, of the staff of the Binghamton State Hospital, has been made first assistant physician, vice Dr. William A. White, resigned.

The Smallpox Situation.—The state health department has issued a bulletin showing that new cases of smallpox have appeared during the past week in the following places in the state; Salamanca and West Salamanca, Cattauraugus County; Plattsburg, Clinton County; Cambria, Niagara County, and Massena, St. Lawrence County. The epidemic which has prevailed extensively in the villages of Medina appears to have abated.——A case of smallpox has appeared at Wells College, Aurora, and the college has been quarantined.——At Lockport the places of public gatherings have been closed, even including a cessation of distribution of books by the public library. Fifteen actual or suspected cases have resulted in the sending to Lockport of the secretary of the state health department, Dr. W. E. Johnson, to assist the local authorities in combating the disease.

Buffalo.

Charity Ball a Success.—The charity ball which was given for the benefit of the German Hospital was a pronounced success, and will net the hospital between $1,200 and $1,500.

Smallpox.—At the present time 16 cases have been reported in this city. They are located in the tenderloin districts, which makes it difficult for the health authorities to control. In one case smallpox was found in a waiter in a cheap restaurant, who was waiting on 200 persons.

December Deaths.—The monthly report of the department of health for December shows a death rate of 14.77 per 1,000. The principal causes of death were as follows: Consumption, 34; cerebrospinal meningitis, 7; diphtheria, 10; typhoid fever, 10; cancer, 22; apoplexy, 23; meningitis, 11; valvular disease of the heart, 23; bronchitis, 12; pneumonia, 53; nephritis, 26; diabetes, 7; violence, 42. The total deaths for the month were 468, as compared to 503 in December, 1902.

Medical Society of the County of Erie.—At the eighty-third annual meeting held in Buffalo, January 12, Dr. William C. Krauss was elected president; Dr. Franklin C. Gram, secretary, and Dr. Edward Clark, treasurer. The society condemned Mayor Knight's efforts to send all the sick poor to the County Hospital. Memorials for deceased members were presented as follows: Dr. Herman Mynter, by Dr. Henry R. Hopkins; Dr. Herbert Mickle, by Dr. W. Scott Renner; Dr. William H. Jackson, by Dr. Alvin A. Hubbell; Dr. Byron H. Daggett, by Dr. Nelson W. Wilson.

Annual Death Rate.—The annual report of the Bureau of Vital Statistics shows the average death rate for the year to have been 14.95 per 1,000. The total number of deaths for the year was 5,681. The death rate of 1902 was 13.70; for 1901 it was 14.68; for 1900, 14.19; for 1899, 12.59; for 1898, 12.25; for 1897, 12.42; for 1896, 12.72; for 1895, 13.95; for 1894, 16.76; for 1893, 19.03; for 1892, 19.98; for 1891, 23.47, and for 1881, 25.72. During the past year the month of greatest mortality was August, and the next highest month was July. There were 525 more deaths among males than among females.

Personal.—Dr. Floyd S. Crego, formerly chief surgeon of the Fourth Brigade, N. G., N. Y., gave a dinner at the Buffalo Club to the officers of the brigade on his retirement. Among the invited guests were Drs. Charles G. Stockton and Roswell Park.——Dr. Charles Vaux has been appointed junior assistant physician at the Manhattan State Hospital.——The officers elected for the German Hospital Dispensary were the following: President, Dr. Alois Jokl; vice-president, Dr. Charles Durand, and secretary-treasurer, Dr. Adolph Urban.——Dr. Henry D. Ingraham is ill and confined to his home.——Dr. Edward J. Meyer has gone south for his health.

Morbidity and Mortality of 1903.—During 1903 there were 351 cases of typhoid fever reported, with a mortality of 133. There were 471 deaths from consumption. The discovery of antitoxin has had a wonderful effect on the mortality from diphtheria; there were 794 cases reported, with 110 deaths. Of 465 cases of scarlet fever reported there were but 26 deaths. There were 533 cases of measles reported, with 37 deaths. With cholera infantum but one case was reported earlier than May. The month of greatest mortality was August. The dissemination of pamphlets instructing the mothers how to treat such cases has resulted in a marvelous decrease in the death rate. In 1901 the number of deaths was 186, in 1902 it was 141, and last year the number was still further reduced to 121.

Would Send Sick Poor to County Hospital.—Mayor Knight has drafted a bill to empower the overseer of the poor, a city official, to send poor cases to the County Hospital. At present the superintendent of the poor, a county official, is the only person clothed with such authority. During the fiscal year 1901 more than $50,000 was paid to private hospitals for city cases, and the year following the amount increased to $70,000. Mayor Knight believes that many of these cases should be sent to the County Hospital when the city pays 85 per cent. of the expenses of that institution. The city hospitals are protesting against the measure. There are six or eight hospitals in Buffalo to which ward patients may be sent on city orders, and where a sum must be contributed by public charities in excess of the per capita allowance of the city. It is said that many poor patients, rather than be stigmatized as paupers by being sent to the County Hospital, will not seek aid at all. The hospitals which Mayor Knight designates as private hospitals state that they are not such in fact, but are public hospitals, maintained by public charities, of which the city must bear its proper share.

New York City.

Spitters Arrested.—On January 12 the police arrested ten persons for spitting in violation of the sanitary regulations. Of the defandants, 7 were fined $1 each, and 3 were discharged.

New Hospital.—Mrs. J. Hood Wright, widow of the founder of the J. Hood Wright Hospital, has announced that she contemplated building, at a cost of $2,000,000, a new hospital in memory of her husband, to take the place of the present one, which lies in a hollow.

To Advise Board of Health.—Former Health Commissioners Ernest J. Lederle and Charles F. Chandler have been appointed consulting sanitarians of the present board and will also sit as members of the advisory board. These positions are purely honorary, with no salary attached.

Money for Hospitals.—The German Hospital received $4,500, the net receipts of the benefit opera performances held in November last.——The Post-Graduate Hospital has been paid a legacy of $5,000, bequeathed by Mrs. Samuel Colman to endow a bed in the babies' wards of the hospital.

Hospital Jubilee.—The New York Infirmary for Women and Children, which was founded in 1853 by Dr. Elizabeth Blackwell, celebrated its fiftieth anniversary, January 16, at the Waldorf-Astoria. Dr. William H. Welch, Baltimore, and Miss M. Carey Thomas, president of Bryn Mawr College, were among the speakers.

Need Ten-Million-Dollar Endowment.—The annual reports of twenty hospitals in the city show a total deficit at the close of the fiscal year of $432,368.78. In the judgment of those who have studied this subject most carefully, it needs an endowment of not less than $10,000,000, securely invested, to yield the revenues required to make up the present annual deficit of the New York hospitals.

Personal.—Dr. Patrick J. Murray, the new health officer of Brooklyn, has reported for duty.——Dr. Russell Bellamy has been commissioned captain and assistant surgeon of Squadron "A," N. G., N. Y.——Dr. Ellen L. Lowell has been appointed chief bacteriologist at the Graves Pathological Laboratory of the Orange (N. J.) Memorial Hospital.——Dr. Arthur J. O'Leary has been appointed visiting physician to Manhattan College, vice Dr. Cornelius M. O'Leary, deceased.

Wage War on Pneumonia.—Vigorous measures to check the epidemic of pneumonia will promptly be taken by the health authorities as a result of a meeting held January 12 by Dr. Thomas Darlington, the new commissioner, and the members of the advisory board of the department. In the last five weeks of 1903 there were 889 deaths in Manhattan alone from this cause, as against 586 for the corresponding period of the previous year. Several methods of action were chosen as a beginning of the work. These include the cleaning of all public buildings, including school-houses, a rigid enforcement of the law requiring the cleaning of sidewalks from snow and slush, insisting on the proper heating and ventilation of street cars, surface and elevated, and the enforcement of the prohibition against expectoration on the sidewalks, or anywhere else where infection may be caused.

PENNSYLVANIA.

Typhoid at Kittanning.—It is reported that there are now 100 cases of typhoid fever at Kittanning, and that the disease is spreading rapidly.

Petition Denied.—In the United States Circuit Court, January 4, Dr. Susan J. Tabor was refused a new trial in her suit against the Norristown State Hospital to recover $2,072.50 for salary alleged to be due her.

Guilty on Two Counts.—Dr. Robert H. Gilliford, Allegheny, charged by another physician of the city with felonious assault, carrying concealed weapons, and pointing firearms, was found guilty on the two latter counts, the jury recommending him to the extreme mercy of the court on the last count.

Personal.—Dr. Milton A. Robison, after 20 years of practice in Hazelton, retired from practice January 1.——Dr. Edward R. Myers, Pittston, has been appointed a resident physician of the Harrisburg Hospital, vice Dr. John A. Sherger, resigned. ——Dr. Charles A. Arnold, Allegheny, was seriously burned in a natural gas explosion at his residence, December 31.——Dr. J. D. Kramer has succeeded Dr. Horace F. Taylor as resident physician at the Chester Hospital.

Smallpox Closes Schools.—By order of the State Board of Health all the schools in three townships, Morris, Center and Rich Hill, in Greene County, and two adjoining townships, East and West Finley, in Washington County, have been closed indefinitely on account of smallpox. An epidemic of smallpox is raging in the border townships. The authorities of Luzerne borough, frightened by an outbreak of smallpox there have issued orders that all schools, churches, dance halls, places of amusement and public places be closed for fifteen days, in the effort to prevent the disease spreading.

The Butler Typhoid Epidemic.—The epidemic of typhoid fever at Butler seems to have practically run its course. The census conducted under the auspices of the Pennsylvania State Board of Health was completed January 5, and showed that up to that date there had been 1,316 cases and 84 deaths. Deaths occurring in other towns attributable to infection in Butler bring the total number of deaths up to 95. The number of deaths from typhoid fever at Butler up to January 15 reached a total of 101. A very few new cases continue to be reported. The officials of the State Board of Health in charge of the local situation state that they have obtained information regarding the existence of no fewer than seventeen cases of typhoid fever on the watershed of the contaminated creek during the summer and fall of 1903. The relief committee has issued the statement that the funds now in hand are sufficient for the prospective needs and that no more outside assistance will be necessary; it has also expressed public thanks for the generous assistance rendered by physicians, nurses and the general public. The total amount of money received is between $50,000 and $55,000, and a surplus of about $10,000 still remains.

Philadelphia.

The New Municipal Hospital.—Plans have been completed by the Department of Health for the heat and power plant of the new Municipal Hospital, to cost about $125,000. The buildings have been erected and partitioning into wards has begun.

Bequests to Hospital and College.—By the will of the late Henry B. Ashmead, a printer, his estate, valued at $500,000, reverts to the Episcopal Hospital, as a memorial to his widow, after her death and that of her daughter.——Louis C. Vanuxem, whose estate is valued at over a million dollars, bequeathed $25,000 each to Princeton University, of which he was an alumnus, and to Jefferson Medical College, of which he was a trustee.

Death and Disease.—For the week ended January 16, the deaths numbered 736, the highest death rate for any week in three years. Soft coal smoke, but especially slush and cold, are responsible for much sickness. Deaths from diseases of the respiratory passages, aside from phthisis, numbered 188. There was considerable decrease in the number of new cases of smallpox and typhoid fever, there being 58 of the former and 89 of the latter.

Club Elects Officers.—At the annual meeting of the Medical Club of Philadelphia, held January 15, the following officers were chosen: President, Dr. Edward E. Montgomery (re-

elected); vice-presidents, Drs. Roland G. Curtin and Wharton Sinkler; secretary, Dr. J. Gurney Taylor; treasurer, Dr. F. Savary Pearce; member of the board of governors, to serve five years, Dr. Edward L. Duer, and additional members of the executive committee, Drs. Hobart A. Hare, Ernest Laplace, Alexander McAlister, Walter L. Pyle, and William H. Warder. The retiring secretary, Dr. Guy Hinsdale, who had served for the past five years, was given a loving cup. Dr. Hinsdale will go, February 1, to Hot Springs, Virginia, to practice.—The presentation was made on behalf of the club by Dr. T. Chalmers Fulton. The club has now a membership of 575 and encourages hospitality and good fellowship.

Mortality and Morbidity of 1903.—The annual report of the Bureau of Health for 1903 shows the death rate to have been 18.82 per 1,000 of population. This is higher than for 1902, the rate then being 17.67. The rate is the lowest, however, with three other exceptions since 1879. The total number of deaths for the year was 25,947, as compared with 23,847 for the previous year. There was a large increase in deaths from typhoid fever, there being 585 in 1902 and 957 last year. The greatest number of deaths from a single disease was from pneumonia, 3,180, as compared with 2,976 for the previous year. Tuberculosis deaths numbered 3,053, an increase of 208 cases over last year. Deaths from smallpox numbered 278, 47 more than in 1902. Cases of contagious diseases for the two years were as follows:

	1902.	1903.
Scarlet fever	3,161	3,200
Diphtheria	2,444	3,043
Typhoid fever	5,006	8,650
Smallpox	1,342	1,637

TEXAS.

New Secretary of State Association.—Dr. John T. Moore, Galveston, has been appointed secretary of the Texas State Medical Association, to fill the unexpired term of Dr. H. A. West, who recently died.

GENERAL.

Medical Clerks Wanted.—The United States Civil Service Commission will hold examinations, Feb. 17-18, 1904, in various prominent cities to fill eighteen vacancies in the position of copyist (male), at $900 per annum, in the Bureau of Pensions, and other similar vacancies as they may occur. The examination will consist of the following subjects:

1. Letter-writing (a letter of not less than 150 words on some subject of general interest. Competitors will be permitted to select one of two subjects given).
2. Penmanship (the handwriting of the competitor in the subject of copying will be considered with special reference to the elements of legibility, rapidity, neatness, general appearance, etc.).
3. Copying (a test consisting of two exercises—the first to be an exact copy of the matter given, and the second to be the writing of a smooth copy of rough-draft manuscript, including correction of all errors of spelling, capitalization, syntax, etc.).
4. Anatomy and physiology.
5. Diagnosis.
6. General and special pathology.
7. Surgery and surgical pathology.

The age limit is 25 to 30 years, and only graduates of recognized medical schools will be examined. This examination is open to all citizens of the United States who comply with the requirements. Persons who desire to compete should at once apply, either to the United States Civil Service Commission, Washington, D. C., or to the secretary of any local board of civil service examiners, for application Form 1,312, which should be properly executed and filed with the commission at Washington.

CANADA.

The Typhoid Situation in Montreal.—Several more cases of typhoid fever developed in Westmount, one of the suburbs of Montreal, during the past week, and in St. Henri, the situation continues very grave. There are still 30 cases in the Montreal General Hospital; at the Royal Victoria, 45 cases, and at the Hotel Dieu, 25.

Checking Consumption in British Columbia.—The board of health of this province has decided to take vigorous action on tuberculosis. British Columbia is said to be one of the very few civilized communities of the world which has done almost nothing in the way of prevention of tuberculosis. A circular has been prepared for general distribution, and it is understood that the Canadian Pacific Railway will give $25,000 for the project. A British Columbia association for the prevention and cure of tuberculosis will be formed.

Ontario Vital Statistics.—In the annual report of the registrar general for Ontario, which is now being prepared for 1903, the conditions prevailing are generally satisfactory. There were 47,796 births reported as compared with 46,061 for 1901, an increase of 1,735, giving a general rate of 21.7 per cent. The birth rate in the cities is 22.2, or 0.5 higher than the general average. The marriages in Ontario were 18,072, compared with 18,035 in 1901, an increase of 37. The average for the province is 8.2, but in the cities alone it is 12.2, and in the towns, 12.8. The effect of the elopements from Detroit is shown in the high rate of Essex County, which is 26.7. The total number of deaths was 27,864, as compared with 29,608, giving a rate of 12.6, compared with 13.6 for 1901. The high average of health in Ontario is shown by comparison with other countries. In the United Kingdom it is 17.1; in Norway, 14.9; Austria, 24.2; Switzerland, 18.0; German Empire, 20.7; Quebec, 19.9. In Toronto the rate is 15.4; in Hamilton, 14.6; in London, Ont., 15.2; in New York, 20.57. The details for 1902 show a remarkable decrease from contagious diseases, which were 1,944, as compared with 2,590 in 1901. The deaths from tuberculosis also show a continued decrease, having fallen from 127.8 in 1898 to 90.6 in 1902.

FOREIGN.

Physicians for the Russian Trains.—The Russian authorities are planning to have a medical attendant on each of the through Siberian trains.

Prize for Inventor of Infiltration Anesthesia.—The Würzburg University has bestowed the Rinecker prize of a silver medal and sum of $250 on Prof. C. L. Schleich of Berlin, as a token of appreciation of his method of infiltration anesthesia. His first publication on the subject was in 1894, when he published "Painless Operations," which has passed through many editions since.

Typhoid Bounty.—The city council of the French city of Rouen has adopted the plan of offering a prize of $2 to the first person who notifies the authorities of a case of typhoid fever. A sum of $4 will likewise be paid to the family if they agree to follow the directions of the board of health in regard to disinfection, etc. When the city council adopted the above typhoid bounty plan the only two dissenting votes were those of the two physicians who serve as members of the council.

French Climatotherapy Congress.—A congress has been organized to meet at Nice, April 4 to 9, 1904. Professor Chantemesse has been appointed president and the executive committee also includes Rénaut of Lyons, Grasset of Montpellier, Calmette of Lille and Balestre of Nice. The general secretary is Dr. Hérard de Bessé, 5 Boulevard Central, Beaulieu-sur-mer, France. Addresses will be delivered on the "Climate of the French Mediterranean Coast," "Adaptation of the Individual to the Climate," "Influence of this Coast Climate on Tubercular Patients," "Influence on Rheumatism and Those Subject to Rheumatism," and on "Disinfection of Towns."

Antimalaria Education of the Public.—The two physicians who are the moving spirits in the "Ligue contre le Paludisme," founded last spring at Alger in Algeria, have issued a small pamphlet in which is described in popular style the recent acquisitions to our knowledge of the transmission of malaria by mosquitoes. They summarize the deductions in the two desiderata: "Prevent man from being bitten by contaminated mosquitoes," and "Prevent the anopheles from biting contaminated human beings." The various means by which this can be accomplished are portrayed by pictured and simple descriptions. In conclusion the pamphlet contains a few simple rules of general hygiene. The benefits of this plan of educating the public have already become apparent in this French colony.

LONDON LETTER.

Shellfish and Sewage.

Outbreaks of typhoid fever due to sewage-contaminated shellfish have recently been described in THE JOURNAL. The Royal Commission on Sewage Disposal, which has been inquiring into the subject for the last 3 years, has just issued a report. The commission has had little difficulty in concluding that shellfish contaminated by sewage may produce typhoid fever and other illnesses. Dr. Newsholme, health officer for Brighton, declared that 37 per cent. of the typhoid fever in that town from 1894 to 1902 were due to shellfish, and other health officers gave similar evidence for Manchester, Yarmouth and Southend. The commission recommends that tidal waters be placed under the jurisdiction of a competent authority empowered to prevent the taking of shellfish for consumption from any position in which they are liable to dangerous contamination and to enforce restrictions as regards waters, foreshores, pits, ponds, beds and layings in which shellfish are fattened or stored. New legislation will be necessary to prevent seaside towns dis-

charging their sewage in such a way into the ocean as to pollute shellfish used for edible purposes.

The Cooking of Shellfish.

Some experiments carried out by the Fishmongers' Company on the cooking of the smaller shellfish are of interest in connection with the scare raised by sewage-contaminated shellfish. Dr. Klein, bacteriologic adviser to the company, has proved that the usual method of cooking only amounts to scalding and can not be relied on to sterilize the fish. The live fish with shells tightly closed are held in a net and plunged into boiling water. The immersion of the cold mass lowers the temperature, and when, in two or three minutes, the water begins to boil again the net is lifted out. Fish that had been kept in typhoid-polluted water so treated were found to be swarming with typhoid bacilli. Prolonged boiling would no doubt be effective, but it spoils the fish for sale. Dr. Klein then suggested that cooking by steam, in consequence of its greater penetrative power, might be an efficient sterilizer and not spoil the fish as food. Two batches of cockles and mussels were cooked in a steamer for five and ten minutes. The results were: mussels spoilt and useless for sale; cockles all right in upper layers, but bottom layer overcooked. The mussels cooked for five minutes were all right, and the cockles better than the ten minutes' batch, but the bottom layer was somewhat overcooked. In all cases the cockles were sterile; the mussels were sterile except those on the top steamed for five minutes, some of which retained living spores. It is probable that if exposed to the more direct action of the steam the mussels could be completely sterilized in five minutes. As a result of these experiments the Fishmongers' Company has strongly recommended steaming to the trade.

Correspondence.

Opticians: An Appeal to the Medical Profession.

NEW YORK CITY, Jan. 16, 1904.

To the Editor:—An optical society, composed of so-called "refracting opticians," has issued a circular letter to the medical profession, asking for the endorsement of a bill about to be introduced in the legislature, legalizing the "practice of optometry."

This measure is not a new thing; we have met it several times in the past, and it has only been necessary to expose its pernicious features to defeat it. It will be necessary to do this again and again until the public awakens to the fact that measures such as this are only the efforts of incompetent people to evade the medical laws in order that they may prey on the community without fear of molestation, and then suitable provisions will be made to suppress them.

It is to be hoped that members of the medical profession will not be influenced by the specious arguments of these opticians to give them any encouragement or endorsement; for any success they may attain will be the signal for a host of osteopaths and other peculiar people to ask for similar privileges. There are no good reasons why opticians should be granted any special privileges. They undertake to do a work which they are not in any way qualified to undertake, and there is no doubt, in the minds of those who are competent to judge, that they do incalculable harm and injury. They, in common with all others who treat physical defects and infirmities, should have a medical education before they are allowed to go before the public as competent to do the work that they pretend to be able to do. It can not be expected that future physicians will be willing to undertake a course of studies to prepare themselves for the work of caring for the sick and physically defective, if, when they have fulfilled all the legal requirements, they find themselves obliged to compete with others who have received almost identical rights and privileges with practically no preparation. If medical laws are necessary to the proper protection of the community, they should apply equally to all who make a business of advising or treating people, regardless of the disease or defect from which they suffer, or of the methods or measures employed. It is impossible for the state to discriminate between physicians, opticians, and the various "pathies" without injury to the cause of professional elevation. A single standard must be created for all, and with its requirements all should comply.

The committee on legislation of the Medical Society of the State of New York has fought these legislative battles successfully in the past and will continue to do so if the profession will back us as it always has. The members of the legislature have no knowledge of the merits of this and similar measures, and look to the medical profession for advice and guidance. The legislature is made up of fair-minded, intelligent and loyal citizens; and when pernicious laws affecting the public health are enacted, it is, as a rule, because citizens who are not members of the legislature neglect to do their duty. We urge the members of the medical profession resolutely to oppose this "Optometry Bill," and its defeat is assured.

FRANK VAN FLEET, Chairman,
Committee on Legislation, Medical Society of the State of New York.
60 East 77th Street, New York City.

Tuberculosis in Prisons.

ST. PAUL, Jan. 14, 1904.

To the Editor:—In an editorial, January 2 (p. 36), you draw attention to the fact that New York State has led the way in providing the first isolation wards for the treatment of tuberculous prisoners. You do not mention the date of such action, but I presume it was recent. If so, New York is not the first state to make such provision for prisoners.

Dr. B. J. Merrill, physician in charge of the prison at Stillwater, Minn., established the system of isolation, special diet, etc., at that institution in the summer of 1894. He set aside a group of cells that came to be known, in prison parlance, as "Tuberculous Row." With any symptoms of tuberculosis showing, a prisoner was subjected to a careful examination, physical and bacteriologic, and if the presence of the disease was established he was at once placed in a cell in the "Tuberculous Row." This does not mean that he was placed in an infected cell; quite the reverse, for these cells and their contents received special attention, and all bedding and clothing were disinfected and laundered separately. Special diet was given. The prisoner was required to spit into a spit cup containing a disinfectant, and special care was given to the daily cleansing of the cell. If able to work, he was assigned a task in the open air. This custom has been continued to the present time under Dr. Merrill's supervision.

In 1897 Dr. Merrill informed me that since the above method of isolation went into effect, in 1894, there has been a decrease of 52 per cent. in the number of cases of tuberculosis. At that time (October, 1897) in this prison of 493 convicts there were only 6 who were tuberculous.

At present (Jan. 12, 1904) there are 6 tuberculous patients at Stillwater out of 630, and these were tuberculous when they entered the prison. All have improved since admission. All are kept in the open air as much as possible, and all are on a special hospital diet.

I think Dr. Merrill was the pioneer in this work.

H. M. BRACKEN,
Secretary Minnesota State Board of Health.

Offensive Commercialism.

CHICAGO, January 16, 1904.

To the Editor:—A few days ago I received through the mail an advertising circular from the Colorado Lithia Water Company, 167 East Van Buren Street, Chicago, and accompanying it and enclosed was a slip of pink paper neatly folded and marked "Personal." I enclose this slip and request that you publish it in THE JOURNAL as an example of an offensive commercialism of which the entire profession must disapprove.

ARTHUR R. ELLIOTT.

The slip referred to reads as follows:

"We will pay you $1.00 for each customer sent us or prescription ordering case or demijohn of water. (See priced card.) Cash sent you at once.

"COLORADO LITHIA WATER CO."

Prevention of Typhoid Fever.

CODY, NEB., Jan. 12, 1904.

To the Editor:—In reading the excellent paper and discussion in the last issue of THE JOURNAL, on prevention of typhoid, I wish to add the boiling as well as scalding of all dishes and tableware. In this remote, ranching, watershed locality typhoid is commencing to occur (imported). Hotel knives and forks, etc., seem conveyors from transients to residents. Cases guarded as above with, of course, other precautions, have been limited to one in a family, while those not under such care have spread. T. F. CAMPBELL, M.D.

Queries and Minor Notes.

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

LITERATURE ON ILLEGITIMACY.

DETROIT, Jan. 11, 1904.

To the Editor:—I am desirous of consulting what literature there is available on the subject of illegitimacy or bastardism. Can you refer me to any material? J. E. D.

ANSWER.—The medical aspects are well discussed from one point of view in articles by Dr. Hastings H. Hart, entitled "The Physician and the Illegitimate Child," *Illinois Medical Journal*, August, 1902, and the "Illegitimate Child in Chicago," *Chicago Medical Recorder*, March 15, 1903. Another aspect of the case was discussed with considerable wealth of historical references by Dr. E. C. Spitzka in a continued article in the *Alienist and Neurologist*, beginning April, 1901, entitled "The Legal Disabilities of the Natural Child," in which he takes a harsher view of the subject. The subject is one of sociologic rather than of medical import and more will probably be learned from sociologic than from medical literature at the present time.

SMALLPOX AND CUBAN ITCH.

TRAFFORD CITY, PA., Jan. 12, 1904.

To the Editor:—Please describe the following diseases: Cuban itch, Porto Rico chicken-pox and several other diseases or names of supposed diseases. Are they distinct diseases or are they not mild forms of smallpox (varioloid, discrete smallpox)? Please give some reliable information on this subject or refer to some works. T.

ANSWER.—The disease called Cuban itch, Porto Rico chicken-pox, etc., is now generally recognized as a modified form of smallpox, capable, however, of propagating the severer form of the disease. In epidemics the severer type has been present in many cases. The subject was well discussed by Dr. James Nevins Hyde in a letter to the Illinois State Board of Health and published by that board in 1900. It is discussed by Drs. Bracken and Happel in papers in THE JOURNAL, Sept. 8, 1900, vol. xxxv, and also by others in this and various other medical journals.

Marriages.

CHARLES C. PAXTON, M.D., to Miss Louise Wegner, both of Archer, Neb., January 5.

PAUL FREDERIC MARTIN, M.D., to Miss Edna Matilda Kuhn, both of Indianapolis, January 6.

BEVERLEY W. BRISCOE, M.D., Garrett, Md., to Miss Bertha K. Shertzer, at Baltimore, January 6.

PATRICK M. O'REILLY, M.D., Newark, N. J., to Miss Mary Agnes Hardiman of Baltimore, January 6.

Deaths.

Benjamin H. Hartwell, M.D. Jefferson Medical College, Philadelphia, 1868, a member of the American Medical Association; from 1871 to 1877, coroner of Middlesex County, Mass., and since the abolition of that office, one of the medical examiners for the county; a member of the legislature in 1888, and surgeon in the state militia for three years, died at his home in Ayer, January 6, from pneumonia, aged 58.

Stuart H. Reed, M.D. College of Physicians and Surgeons, New York, 1881, died at his residence in Madison, N. J., January 6, after an illness of less than one week, from pneumonia, aged 49. He was a member of New Jersey State Medical Society, Morris County District Medical Society, and Morristown Medical Club.

James Francis Ferguson, M.D. New York University, 1860, assistant surgeon Second New York State Militia, a prisoner in Libby Prison, afterward major and surgeon of the 165th New York Volunteer Infantry, died at his home in Central Valley, N. Y., January 6, from paralysis, after a long illness, aged 64.

Harvey C. Fraker, M.D. University of Wooster, Cleveland, 1873, professor of pathology in the Ohio Medical University, and city bacteriologist of Columbus, Ohio, died at his home in that city, January 9, from aneurism of the aorta, after a long illness, aged 53.

Frederick H. Stahle, M.D. Cooper Medical College, San Francisco, 1888, formerly superintendent of the City and County Hospital in that city, committed suicide by inhaling illuminating gas, at a lodging house in San Francisco, January 5, aged 41.

Charles W. Bishop, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1878, of Tinley Park, Ill., was caught between two street cars in Chicago, January 11, and sustained injuries from which he died on the same day.

J. E. Pierce, M.D. Central College of Physicians and Surgeons, Indianapolis, 1895, coroner of Henry County, Ind., died at his office in Middletown, January 9, from the effects of a self-inflicted gunshot wound of the head, aged 40.

George Winslow Foster, M.D. Medical School of Maine at Bowdoin College, Brunswick, 1871, a member of the Maine Medical Association, and superintendent of the Eastern Maine Insane Hospital, Bangor, died in that city, January 5, aged 58.

Margaret P. Buckman, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1884, died at her home in Trenton, N. J., January 7, from scarlet fever, contracted while caring for her eldest child, after an illness of four days, aged 42.

Robert Emmet Young, M.D. University of Pennsylvania, Philadelphia, 1871, first superintendent of the State Hospital for Insane, No. 3, Nevada, died at his home in Jefferson City, Mo., January 8, from pneumonia, aged 65.

Henry A. Cohrs, M.D. Long Island College Hospital, Brooklyn, 1892, was found dead in the drug store in Brooklyn, in which he was employed, January 9, aged 37. Death is supposed to have been due to heart disease.

W. C. Fisher, M.D. Atlanta College of Physicians and Surgeons, 1881, county physician of Fulton County, Ga., died at his home near Bolton, January 6, from pneumonia, after an illness of one week, aged 49.

L. D. McKinley, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1885, formerly superintendent of the Topeka (Kan.) State Hospital, died at Marshall, Ind., January 1, aged 68.

Joseph W. W. Marshall, M.D. Medical College of the State of South Carolina, Charleston, 1846, once a member of the legislature, died at his home in Abbeville, January 6, aged 83.

Henry B. Wiggs, M.D. Memphis (Tenn.) Hospital Medical College, 1896, of Russellville, Ark., died at St. Vincent's Infirmary, Memphis, January 6, after a long illness, aged 67.

Edward Luther Griggs, M.D. Long Island College Hospital, Brooklyn, N. Y., 1864, was found dead in bed at his home in Waterbury, Conn., January 6, from heart disease, aged 65.

Frank W. Shaw, M.D. New York University, 1885, of Brooklyn, N. Y., died in Seney Hospital in that city, January 9, from the effects of an overdose of opium, aged 38.

David S. Bowlby, M.D. College of Physicians and Surgeons, New York, 1853, of Berlin, Ont., died from chronic bronchitis in Rome, Italy, December 31, after a long illness.

William F. Lazelle, M.D. University of Vermont, Burlington, 1857, of Plainfield, Vt., died at the home of his son in Barre, Vt., January 5, after a protracted illness, aged 68.

Hiram Temple, M.D. Berkshire Medical College, Pittsfield, Mass., 1865, died at his home in Charlemont, Mass., January 6, from pneumonia, aged 64.

Cornelius E. Billington, M.D. New York University, 1864, died at his home in New York City, January 8, after an illness of several weeks, aged 60.

Charles G. Frowert, M.D. University of Pennsylvania, Philadelphia, 1874, died suddenly at his home in Philadelphia, January 9, aged 53.

Hiram W. Vail, M.D. Cleveland Medical College, 1880, of Rogers, Ohio, died at Pittsburg, Pa., January 13, from heart disease, aged 58.

Levi H. Fisher, M.D. Tulane University, New Orleans, 1853, died from pneumonia at his home in Shreveport, La., January 9, aged 70.

John C. Langford, M.D. Medical College of Alabama, Mobile, 1893, of Morales, Texas, died January 4, from poison accidentally taken.

John R. Boyd, M.D., formerly of Defiance, Iowa, died at his home in Cleveland, Ohio, January 5, from Bright's disease, aged 59.

William P. Armstrong, M.D. Homeopathic Hospital College, Cleveland, 1866, died at his home in Salina, Kan., January 6, aged 60.

Frederick H. S. Ames, M.D. Toronto University, 1880, died at his home in Denver, Colo., January 4, after a long illness, aged 45.

James E. Golley, M.D. College of Physicians, Baltimore, 1894, died at his home in Templeville, Md., January 6, from pneumonia.

William E. Whitehead, M.D. Medical College of Ohio, Cincinnati, 1878, died at his home in Brownstown, Ind., January 7.

George P. Hackenberg, M.D. New York University, 1851, died at his home near Austin, Texas, January 8, aged 80.

Robert Lowry, Jr., M.D. Louisville Medical College, 1887, died at his home in San Francisco, January 3, aged 40.

Lewis R. Burns, M.D. Castleton (Vt.) Medical College, 1847, died at his home in Toluca, Ill., December 30, aged 80.

Mrs. M. M. Hatfield, M.D. Homeopathic Hospital College, Cleveland, 1880, died in Denver, January 6.

Deaths Abroad.

John Knowsley Thornton, M.B., C.M., Edinburgh, 1871, died at his home, Hildersham Hall, Cambridgeshire, England, aged 59. He was one of the most famous and successful abdominal surgeons of Great Britain at the time of his retirements—because of failing health—from hospital practice in 1891 and from private practice in 1898. He was an ex-president of the Harveian Society; fellow and president of the Medical Society of London; fellow of the Royal Medical and Chirurgical Society; member of the Royal Medical Society of Edinburgh, Pathological Society of London, and British Medical Association, and was an honorary fellow of the American Gynecological Society and a corresponding fellow of the Boston Gynecological Society.

Karl Emmert, M.D., professor emeritus of medical jurisprudence at Berne, died at his home, December 23, aged 92. His best-known work is a "Manual of Surgery," issued in 1850, and followed by frequent new editions and numerous works on his specialty.

Karl Gebhard, M.D., professor of gynecology and obstetrics at Berlin, died, December 23, aged 42. He published, among others, a work on the pathologic anatomy of the female genitalia, and has been a frequent contributor to medical periodicals.

Book Notices.

HYPNOTISM. Its History, Practice and Theory. By J. Milne Bramwell, M.B., C.M. Cloth. Pp. 477. Price, $4.50 net. Philadelphia: J. B. Lippincott Co. 1903.

The subject of hypnotism is one that is always of interest. It stands on the edge of the marvelous, and on what is often considered by the scientific physician as debatable ground. Dr. Bramwell is the leading English advocate of its utility in therapeutics, and he states his side of the question very ably in the book before us. We ourselves have not the full confidence in the method that he shows, but will admit that it has an occasional utility. Its applicability in general practice is, we think, somewhat doubtful, notwithstanding the remarkable results reported by the author. Dr. Bramwell goes over the history of hypnotism very fully, but it is remarkable that he should leave out so well known a writer as Beard, whose contributions, though not numerous, are yet sufficiently noteworthy to be mentioned. In fact, the history does not include the early American investigations of the subject, some of which were of value, though not always made by scientific men. In spite of its onesidedness the medical man who wishes to be informed on the subject of hypnotism will find this book very useful; in fact, it will be a profitable reference work for any neurologist or scientific physician.

PORTFOLIO OF DERMOCHROMES. By Professor Jacobi of Freiburg in Breisgau. English Adaptation of Text by J. J. Pringle, M.B., F.R.C.P., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. Part I. Half Leather. Price, $15 for Complete Work. London and New York: Rebman, Ltd. 1903.

This is intended especially for the general practitioner, who will find the illustrations in nearly every instance true to nature, although slightly overcolored in some instances. The more common cutaneous disorders have been selected for illustration and not the rare ones which are seldom seen and which are of special interest to the professional dermatologist alone. The diagnosis of skin diseases is usually a difficult problem for the average physician and no amount of descriptive text will take the place of a good picture if it is at all what it should be. The illustrations are from models and are reproduced in a four-color process called, according to the translator, citochromy, a process invented by Dr. Albert of Munich. There are nearly 100 illustrations in the volume before us. The work is not intended as a text-book, and is, therefore, not overburdened with text, although sufficient descriptive matter accompanies the illustrations to satisfy—the essential facts being presented in a condensed form. As a whole the book is a very satisfactory one, and is to be commended to those desiring an atlas on skin diseases.

HOMOPHONIC CONVERSATIONS IN ENGLISH, GERMAN, FRENCH AND ITALIAN, Being a Natural Aid to the Memory in Learning Those Languages. By C. B. and C. V. Waite. Cloth. Pp. 137. Price, $1.00. Chicago: C. V. Waite & Co.

This is a convenient little chrestomathy for the German, French and Italian languages, covering the ordinary conversational expressions that are required by one traveling. The aim has been to make the spelling fairly phonetic in the three languages, employing nearly five hundred homophonic words which are also given in a complete alphabetical list at the end of the work.

Association News.

Place of Session of the American Medical Association for 1905.—Attention is called to the action taken at the last session of the American Medical Association to the effect that any city wishing to invite the Association to meet at that place should present the invitation, together with all available facts concerning hotel accommodations, number and seating capacity of halls available for section meetings, intramural means of transportation, railroad facilities, etc., at least three months before the annual session of the preceding year. In accordance with the above, it is hoped that those cities which desire the Association in 1905 will send their invitations, with all information possible, on or before March 1, 1904.

M. L. HARRIS, M.D.,
Chairman Committee on Place of Session and Transportation.
100 State Street, Chicago.

State Boards of Registration.

COMING EXAMINATIONS.

Iowa State Board of Medical Examiners, Capitol Bldg., Des Moines, Jan. 26-27, 1904. Secretary, Dr. J. F. Kennedy, Des Moines.

New York State Board of Regents, at New York, Albany, Syracuse and Buffalo, Jan. 26-29. Secretary, James Russell Parsons, State Capitol, Albany.

Nebraska State Board of Health, State House, Lincoln, Neb., Feb. 10-11. Secretary, George H. Brash, M.D., Beatrice.

Kansas Board of Medical Examiners, State House, Topeka, Feb. 12. Secretary, O. F. Lewis, M.D., Hepler.

Nebraska Report.—Dr. George H. Brash, Beatrice, secretary of the State Board of Health, reports the written examination held at Lincoln, Nov. 11-12, 1903. One applicant took the examination in 8 subjects, on which 80 questions were asked, and received a grade of 92. The percentage required to pass was 75. He was a graduate of Bellevue Hospital Medical College in 1903.

Michigan Report.—Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine reports the written examination held at Lansing, October 13-16, 1903; 10 applicants appeared, 7 passing; the number of subjects examined in was 19; total questions, 100; percentage required to pass, 75.

Exclusive of two undergraduates who failed, with grades of 73 and 70, the applicants were from the following colleges:

PASSED.

College.	Year Grad.	Per Cent.
Imperial Alexander Univ., Finland	(1896)	87
University of Toronto (two)	(1903)	88, 87
Royal Medical College, Kingston	(1890)	88
Trinity University, Toronto	(1884)	91
McGill University, Montreal	(1903)	89
Washington University, St. Louis	(1899)	89

FAILED.

Dartmouth Medical Coll., Hanover, N. H.	(1886)	72

Iowa October Report.—Dr. J. F. Kennedy, secretary of the Iowa State Board of Medical Examiners, reports that at the written examination held at Des Moines, October 21 and 22, 1903, out of 24 applicants, 12 passed. The subjects examined in numbered 8; total questions, 80; percentage required to pass, 75. The colleges represented, dates of graduation and grades attained are as follows:

PASSED.

College.	Year Grad.	Per Cent.
Coll. of P. and S., Chicago	(1902) 80, (1903)	85
Hahnemann Med. Coll., Chicago	(1903)	78
Iowa Coll. P. & S., Des Moines	(1903)	75
Hosp. Coll. Med., Louisville	(1903)	82
Jefferson Med. Coll., Philadelphia	(1902)	83
N. W. Univ., Chicago	(1903)	87+
Rush Med. Coll., Chicago	(1903) 85+	87
Univ. Copenhagen	(1888)	77+
Univ. Edinburgh	(1903)	91+
Univ. Nebraska	(1903)	90+

FAILED.

Univ. Med. Coll., Kansas City, Mo.	(1902) 70, (1903)	46+*
Iowa Coll. P.& S., Des Moines	(1902)	34+
Coll. P. & S., Kansas City, Kan.	(1900)	59+
St. Louis P. & S.	(1902)	74+
Chicago Hom.	(1903)	72+
Coll. P. & S., Chicago	(1899)	66+
Eclectic Med. Inst., Cinn.	(1903)	64+*
Barnes, St. Louis	(1903)	71+*
Omaha Med. Coll., Nebraska	(1903)	70+*
Univ. of Nebraska	(1903)	67+*
Rush Med. Coll., Chicago	(1900)	67+†

*Second Examination. †Fourth Examination.

The questions asked were as follows:

PRACTICE OF MEDICINE.

1. Is auto-infection a factor in the production of disease? Give example. 2. What is a zymotic disease? Give three examples. 3. On what symptoms would you base a diagnosis of typhoid fever? Give treatment, including diet. 4. Give symptoms and treatment of acute dysentery. 5. Give etiology and treatment of scarlet fever. 6. Give symptoms and treatment of cerebrospinal meningitis. 7. Give treatment and prognosis in erysipelas. 8. Give symptoms and treatment of spasmodic croup. 9. Give symptoms and treatment of acute catarrhal bronchitis in children. 10. What are the causes and give treatment of palpitation of the heart.

ECLECTIC PRACTICE.

1. How would you distinguish acute bronchitis from pneumonia? (b) Give the usual specific treatment for each. 2. Differentiate the classes of croup, and give a treatment for each. 3. Define hepatic colic, nephritic colic, lead colic, and uterine colic. Give brief treatment for each. 4. Mention the specific drugs useful in influenza with coryza, fever and muscular pains. 5. Write a prescription for cholera morbus. 6. Differentiate between varicella and variola discrete in first stages. 7. State the period of incubation of scarlet fever and measles; describe the character of the rash in each, and state when and where it first appears. 8 Describe (*a*) Bell's paralysis, (*b*) Cheyne-Stokes respiration. 9. Define neurasthenia and give etiology, symptomatology and treatment. 10. Give etiology, diagnosis and treatment of malarial fever.

HOMEOPATHIC PRACTICE.

1. Give pathology, symptoms and treatment of membranous croup. 2. Describe a case of scarlet fever with symptoms and course of disease. Give treatment for same. 3. How would you treat a case of carbolic acid poisoning? Name its best antidote. 4. What are the symptoms of renal colic? Give your treatment for same. 5. Give etiology, pathology, symptoms and treatment of shingles. 6. Define hydrocephalus. Give your treatment and prognosis. 7. Give etiology and treatment of eclampsia infantum. 8. Differentiate chicken-pox and smallpox, and give treatment for smallpox. 9. Give your treatment for cerebral apoplexy. 10. What diagnostic means would be necessary to determine between "retention and suppression" of urine. Name remedy for each condition with indications for their use.

OBSTETRICS.

1. What are the conditions necessary to impregnation and the normal development of the ovum? 2. How does the impregnated ovum and the embyro receive the material needed for their development? Explain fully. 3. (*a*) Describe the changes that take place in the breasts as a result of pregnancy. (*b*) What disease of the breasts is most apt to follow labor and what prophylactic measures would you adopt to prevent it? 4. (*a*) What terms are used to denote an interrupted pregnancy and when applied? (*b*) What would you do to prevent the attendant dangers of an interrupted pregnancy? Explain in detail. 5. Give diagnosis, symptoms and treatment of eclampsia. 6. (*a*) What do you understand by the kidney pregnancy? (*b*) Give probable causes of the changes. (*c*) What symptoms and conditions are to be found in such cases? 7. Called to attend a primipara in labor, and finding head in pelvic cavity, presentation normal, os fully dilated, pains becoming weak and inefficient, and woman becoming exhausted; what would you do? Explain in detail. 8. Give etiology, symptoms, sequelæ and treatment of septic endometritis (non-specific). 9. Differentiate between "complete and incomplete" lacerations of the perineum. When should lacerations of the perineum be repaired? Why? 10. What is subinvolution? What are the conditions present? Give symptoms and treatment.

SURGERY.

1. Differentiate chancre, chancroid, and venereal warts, and give treatment for each. 2. How would you tell an empyemia from an ordinary case of pleurisy with serous effusion, and how would you treat each? 3. In what class of cases would you give ether, chloroform, bromid of ethyl, and why? 4. What are the danger signals in general anesthesia? 5. Give the general points of difference between malignant and non-malignant tumors. 6. Under what circumstances would you resort to plugging the posterior nares? (*b*) Describe the operation. 7. What are the general principles of antiseptic surgery, and what is the distinction between antiseptic and aseptic? (*b*) Name three of our best antiseptic agents. 8. Give the symptoms found in the unconsciousness of cranial trauma demanding prompt operative treatment. (*b*) Give differential diagnosis between coma due to brain concussion and alcoholism. 9. Give symptoms and treatment for fracture of lower end of the tibia. 10. What period of time is occupied by the various processes necessary for the repair of fracture? (*b*) What complications are common to all fractures? (*c*) In what fractures is the union ligamentous?

MATERIA MEDICA.

1. Give action and dose of creosote. 2. What drug would you recommend as a prompt emetic? State dose. 3. Give physiological action of digitalis. 4. Describe the effect of atropin. 5. Treatment of morphin poisoning. 6. Give local effect of tanic acid on mucous membranes. 7. Name and give doses of three cardiac stimulants. 8. Give physiologic action of the nitrates. 9. Define a diuretic; name three and give doses. 10. Give chief symptoms of poisoning by mercury.

HOMEOPATHIC MATERIA MEDICA.

1. What do you understand by modality. Give illustration. 2. In what type of amenorrhea would you use pulsatilla and on what symptoms would you prescribe it? 3. Differentiate between sanguinaria, bryonia and kali carb. in pleuropneumonia. 4. In typhoid fever what symptoms would indicate the exhibition of rhus, tox, of phosphorus, of arsen. 5. Differentiate between the headache of ipecac and iris. 6. State the difference between the gastric symptoms calling for kali. bichr. and lycopodium. 7. Give definite picture of toxic effects of terebinth on the urinary system. 8. What is macrotin. What its chief sphere of action and symptoms indicating its use. 9. Name three remedies you would use in cholera morbus with specific indication for the use of each.

ECLECTIC MATERIA MEDICA.

1. Change one drop, one dram, one ounce and one pint to metric system. 2. Name the most common diuretics, and describe their action. 3. What uses are made of permanganate of potassium. 4. Name the most common laxative, hydragog, saline and cholagog purgative and describe their action. 5. Grade the dose of remedies by the age of the patient. 6. Mention some of the specific glandular remedies. 7. From what is cocain obtained? State its therapeutic uses and give the dose. 8. What is a sedative? Name four of the most prominent. 9. From what is glycerin obtained? State some of the therapeutic uses of glycerin. 10. What are the chief preparations, doses, physiologic actions and therapeutic uses of digitalis?

CHEMISTRY.

1. How can magnesia be distinguished from starch? 2. State difference between sulphate and sulphite. 3. What is formed when phosphorus burns? 4. Give the essential properties of the element nitrogen. 5. How can calomel be distinguished from corrosive sublimate? 6. How could you prove the presence of arsenic? 7. Give chemical constitution of iodoform. 8. How can oxygen be obtained from oxid of mercury? 9. What is chloroform and how is it made? 10. How would you test for sugar and albumin in urine?

ANATOMY.

1. Locate the circle of Willis and make drawing of same, showing location and names of vessels composing it. 2. Give boundaries of the popliteal space and name coverings and contents. 3. Describe the shoulder joint and name its ligaments. 4. Name the several divisions of the small intestines. State names of coats, length, caliber and names of glands found in each division. 5. Name the muscles having their origin or insertion in whole or in part from the upper third of the humerus. 6. State the origin, foramen of exit course, distribution and function of the pneumogastric. 7. What is connective tissue? Name the various forms and describe each. 8. Differentiate between a direct and an indirect inguinal hernia. Give the coverings of each. 9. Locate the solar plexis and state what structures are in contact with it. 10. Describe the pancreas, giving *a*, location; *b*, shape; *c*, color, *d*, blood and nerve supply.

PHYSIOLOGY.

1. Name and describe three of the component parts of the blood. 2. How many coats have the veins and how do they differ from the coats of the arteries? 3. Give the size, weight, structure, location and function of the kidneys. 4. Describe a complete revolution of the heart. 5. How is nutritive material conveyed to the blood? 6. What agency has the pancreatic juice in the digestion of foods? 7. What is meant by the "greater" and "lesser" circulation? 8. What is osmosis? Where does it normally occur in the human organism? 9. What are the functions of the pneumogastric nerve? 10. Describe structure, origin, distribution and office of the portio mollis (8th pair cranial) nerves.

PATHOLOGY.

1. Give the pathology of vesicular emphysema and name the associating conditions of the heart and general circulation, and explain them. 2. (*a*) Name the pyogenic bacteria and the conditions that favor their development; (*b*) name ten pathogenic bacteria. 3. (*a*) Define immunity; (*b*) explain the humoral, (*c*) the phagocytic (*d*)

and the lateral or side chain theories of immunity. 4. Give the differential pathology of atrophic and hypertrophic cirrhoses of the liver and the relation that each bears to the production of jaundice, and to obstruction of the portal circulation. 5. What is phagocytosis, metaplasia, a toxin? 6. (*a*) Define gangrene. (*b*) Give the pathology of dry gangrene. (*c*) Give the pathology of moist gangrene. 7. Name the different tissue degenerations and give the pathology of each. 8. How would you demonstrate the presence of tubercular bacilli? 9. Give the pathology of interstitial nephritis. 10. What structures are formed from the epiblast, from the hypoblast, and from the mesoblast?

The Public Service.

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ending Jan. 16, 1904:

Hutton, Paul C., asst.-surgeon, granted thirty days' leave on account of sickness.

Van Dusen, Jas. W., asst.-surgeon, relieved from Columbus Barracks, Ohio, and ordered to West Point, N. Y.

Stark, Alexander M., asst.-surgeon, relieved from duty at West Point, N. Y., and assigned to duty as assistant to the attending surgeon, Washington, D. C., until April 1, when he will assume the duties of attending surgeon.

Banister, Wm. B., surgeon, relieved from duty as attending surgeon, Washington, D. C., April 1, 1904, and ordered to Jefferson Barracks, Mo., for duty.

Brown, Henry L., contract surgeon, arrived at Columbus Barracks, Ohio, December 18, for temporary duty, and has since been relieved from further duty at Fort Sheridan, Ill., and assigned to permanent duty at Columbus Barracks.

Mabry, William C., contract surgeon, relieved from duty at Columbus Barracks, Ohio, and directed to proceed to Fort Sheridan, Ill., for duty.

Brewer, Isaac W., contract surgeon, reported at Whipple Barracks, Ariz., for temporary duty.

White, J. Samuel, contract surgeon, relieved from duty at Fort Yellowstone, Wyo., and assigned to duty at Fort Snelling, Minn.

Gregory, William G., contract surgeon, granted one month's leave of absence from Fort Apache, Ariz.

Macy, Fred S., contract surgeon, who is now on leave of absence at Somerville, Mass., has been relieved from further duty in the Division of the Philippines, and assigned to duty, at the expiration of his leave, at Allegheny Arsenal, Pa.

Mills, Frederick H., contract surgeon, ordered from his home at South Dayton, N. Y., to San Francisco, en route to Philippine service.

Gregory, Verdo B., contract surgeon, ordered from his home at Janesville, Wis., to San Francisco, en route to Philippine service.

Baily, Howard H., Hughes, Leonard S., McCullough, Edward A., and Unger, Isedor M., contract surgeons, arrived at San Francisco January 14 on the transport *Sheridan*, on leave of absence from the Division of the Philippines.

Jordan, Edward H., and Underwood, Fred R., contract surgeons, arrived at San Francisco January 14 on the transport *Sheridan*, and are en route to their homes for the purpose of leaving the service.

Navy Changes.

Changes in the medical corps of the Navy for the week ending Jan. 16, 1904:

Crandall, R. P., surgeon, detached from the Naval Station, Guam, L. I., and ordered to the *Wisconsin*.

Murphy, J. A., P. A. surgeon, commissioned a P. A. surgeon from March 3, 1903.

Heiner, R. G., and Stoops, R. E., appointed asst.-surgeons with rank of lieutenant junior grade, from Dec. 26, 1903.

Marine-Hospital Service.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Jan. 14, 1904:

White, J. H., surgeon, granted leave of absence for seven days from January 11.

Gulteras, G. M., surgeon, detailed as inspector of unserviceable property at Havana, Cuba.

Wickes, H. W., P. A. surgeon, granted leave of absence for two days from January 16.

Grubbs, S. B., P. A. surgeon, granted leave of absence for ten days.

Amesse, J. W., asst.-surgeon, granted extension of leave of absence on account of sickness for ten days from January 11.

Duke, B. F., A. A. surgeon, granted leave of absence for five days from January 14.

Tidd, R. M., A. A. surgeon, granted leave of absence for seven days under Paragraph 210 of the Regulations.

Tuttle, Jay, A. A. surgeon, Department letter granting leave of absence for ten days from Dec. 21, 1903, amended to read five days.

Walker, R. T., A. A. surgeon, granted leave of absence for twenty days from January 5.

Maguire, E. S., pharmacist, granted extension of leave of absence for ten days from January 8.

Richardson, S. W., pharmacist, to proceed to New York, for special temporary duty.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, Public Health and Marine-Hospital Service, during the week ended Jan. 15, 1904:

SMALLPOX—UNITED STATES.

California: Fresno, Dec. 1-31, 2 cases.
Illinois: Belleville, Dec. 19-Jan. 9, 12 cases, 1 death; Jan. 2-9, Chicago, 1 case; Danville, 2 cases.
Indiana: Evansville, Jan. 6, 14 cases.
Louisiana: New Orleans, Jan. 2-9, 3 cases.
Maine: Jan. 7, Milford, 2 cases; Orono, 1 case.
Michigan: Grand Rapids, Jan. 2-9, 1 case.
Missouri: St. Louis, Dec. 26-Jan. 9, 6 cases.
New Hampshire: Jan. 2-9, Manchester, 6 cases; Nashua, 1 case.
New Jersey: Jan. 2-9, Camden, 2 cases, 1 death; Trenton, 1 case.
New York: Buffalo, Dec. 26-Jan. 9, 5 cases.
Ohio: Ashtabula, Dec. 28-Jan. 4, 1 case; Cincinnati, Dec. 24-Jan. 8, 6 cases, 1 death; Cleveland, Jan. 1-8, 2 cases; Dayton, Jan. 2-9, 1 case; Youngstown, Dec. 26-Jan. 9, 37 cases.
Pennsylvania: Jan. 2-9, Braddock, 6 cases; Philadelphia, 83 cases, 25 deaths; Pittsburg, 20 cases, 4 deaths; Reading, Jan. 4-11, 1 case.
South Carolina: Charleston, Jan. 2-9, 2 cases.
Tennessee: Nashville, Jan. 2-9, 1 case.
Texas: San Antonio, Dec. 1-31, 6 cases.
Utah: Salt Lake City, Jan. 2-9, 1 case.
Wisconsin: Milwaukee, Jan. 2-9, 10 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Nov. 14-Dec. 5, 2 cases, 1 death.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Dec. 12-19, 16 cases; Trieste, Dec. 5-12, 21 cases.
Brazil: Pernambuco, Nov. 1-31, 20 deaths.
British Guiana: Demerara, Oct. 31-Nov. 28, 62 cases.
Chile: Antofogasta, Nov. 1-30, 8 deaths.
France: Paris, Dec. 12-26, 31 cases, 3 deaths.
Great Britain: Edinburgh, Dec. 12-19, 1 case; Dec. 19-26, Glasgow, 64 cases, 2 deaths; London, 7 cases; Manchester, 2 cases; Newcastle-on-Tyne, 1 case; Dec. 26-Jan. 2, Leeds, 1 case; Southampton, 1 case; Nottingham, Dec. 12-26, 11 cases.
India: Bombay, Dec. 8-15, 4 deaths.
Italy: Catania, Dec. 17-24, 1 death; Messina, Dec. 11-18, 1 death.
Malta: Dec. 5-19, 8 cases.
Netherlands: Amsterdam, Dec. 19-Jan. 2, 6 cases, 1 death.
Russia: Moscow, Dec. 12-19, 1 case, 1 death; Odessa, Dec. 12-26, 3 cases; St. Petersburg, Dec. 5-19, 101 cases, 2 deaths; Warsaw, Nov. 21-28, 3 deaths.
Spain: Santander, Dec. 28-Jan. 4, 3 cases, 1 death.
Turkey: Smyrna, Dec. 13-20, 6 deaths.
Venezuela: Maracaibo, Oct. 24-31, 1 case, 1 death.

YELLOW FEVER—FOREIGN.

Mexico: Merida, Dec. 20-Jan. 2, 4 cases, 2 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Nov. 14-Dec. 5, 1 case, 1 death.

PLAGUE—FOREIGN.

China: Hongkong, Nov. 29-Dec. 5, 1 death.
Egypt: Alexandria, Dec. 5-12, 3 cases, 2 deaths.
India: Bombay, Dec. 8-15, 56 deaths; Calcutta, Dec. 5-12, 18 deaths; Karachi, Dec. 6-13, 8 cases, 7 deaths.
Mauritius: Oct. 9-Nov. 5, 377 cases, 211 deaths.
South Africa: Cape Colony, Nov. 14-21, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Nov. 14-Dec. 5, Manila, 13 cases, 11 deaths; Provinces, 643 cases, 567 deaths.

CHOLERA—FOREIGN.

Afghanistan: Herat, Dec. 21, present.
India: Bombay, Dec. 8-15, 1 death; Calcutta, Dec. 5-12, 38 deaths.
Japan: Nagasaki, Nov. 30, 130 cases, 64 deaths.
Java: Batavia, Nov. 28-Dec. 5, 14 cases, 2 deaths.
Straits Settlements: Singapore, Nov. 14-21, 4 deaths.
Turkey in Asia: Dec. 7, 37 cases, 30 deaths.

Medical Organization.

AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.—The intention of the officers of this association to put it on a high plane is evidenced by the change in the requirements for membership, which now provide that the applicant must not only be a graduate of a recognized medical college, but that he shall be a member in good standing of both his county and state medical society.

Illinois.

SIXTH DISTRICT MEDICAL SOCIETY.—January 14 Dr. Luther J. Harvey of Griggsville, councilor for the Sixth District of Illinois, called together the physicians in his district, for a joint meeting of the fourteen societies which comprise the district. The meeting was held at Jacksonville by invitation of the Morgan County Medical Society. The program for the afternoon consisted of a report from the secretary of each county society. The secretaries had been especially requested by the councilor to present to the meeting the various difficulties under which each county society labored. Dr. J. N. McCormack, chairman of the Committee of the American Medical Association on Reorganization, was present and took part in the discussion of these reports, pointing out to the various secretaries how they could overcome the reported difficulties. This proved to be a valuable feature of the meeting. Several papers on scientific subjects were presented by Drs. Lewis C. Taylor, Springfield; James L. Lowrie, Lincoln; Rufus H. Main, Barry,

and Thomas J. Pitner, Jacksonville. In the evening all those in attendance were invited to a dinner, which was followed by an address on "Medical Organization" by Dr. J. N. McCormack, Bowling Green, Ky., and an address on the "Diagnosis of Hysteria" by Dr. Hugh T. Patrick, Chicago. Dr. Frank P. Norbury, president of the Morgan County Medical Society, acted as master of ceremonies at the dinner. Those present feel that the meeting will be productive of great good in stimulating interest in county society organization in the district. It gave the members coming from different counties an opportunity to discuss the subject of maintaining live active local societies with each other, and each was enabled to go home with some new ideas gained from his neighbors, as well as from the national organizer, who gave invaluable assistance by practical suggestions of ways to overcome obstacles and difficulties and how to promote interest in the local society and secure the co-operation of all the members of the profession.

Maryland.

HOWARD COUNTY MEDICAL SOCIETY.—This society held its quarterly session at Ellicott City, January 5, and heard an address by Dr. William T. Watson of Baltimore on "Medical Organization."

ANNE ARUNDEL COUNTY MEDICAL SOCIETY.—This society met in Annapolis, January 5, to reorganize under the rules of the American Medical Association. The following officers were elected: Dr. H. Baldwin Gantt, Waterbury, president; Dr. C. R. Winterson, vice-president; Dr. Frank H. Thompson, Annapolis, treasurer; Dr. Benjamin R. Davidson, Davidsonville, recording secretary; Dr. Charles B. Henkel, Annapolis, corresponding secretary, and Drs. George Wells, Annapolis, C. H. Anderson, and J. W. DuBois, Gambrills, censors.

Rhode Island.

RHODE ISLAND MEDICAL SOCIETY.—At the quarterly meeting held in Providence, December 3, Dr. John Champlin, Westerly, reported for the committee on reorganization, recommending the adoption of a new constitution and by-laws. The report was received and action deferred.

Tennessee.

WARREN COUNTY MEDICAL SOCIETY.—Physicians of the county met at McMinnsville and organized a society, with the following officers: President, Dr. Albert Seitz, McMinnsville; vice-presidents, Drs. H. V. Copenhaver, Pine Bluff, and T. C. Martin, and secretary and treasurer, Dr. Thomas O. Burger, McMinnsville.

Texas.

CO-OPERATION FOR THE PROFESSION'S ADVANCEMENT.—The following letter has been sent by Dr. F. Paschal, San Antonio, Texas, president of the Texas State Medical Association, to the secretaries of all the component societies in the state:

SAN ANTONIO, TEX., Dec. 19.

Dear Doctor:—I am anxious to get an expression of opinion from the medical profession of our state as to the measures that in their opinion should be considered by our association for its best interest, advancement and welfare.

I will esteem it a favor if you will kindly communicate with the members of your county society and ask those members who feel inclined to do so, to write me fully, making such suggestions as they may think proper for the good of our association. I will study their recommendations, and in my annual message incorporate such as may be of practical value, and that may help in the upbuilding of the profession and our association.

Please send me the names of all the reputable physicians in your county who have not joined your county society.

Asking that you will kindly give these matters your earliest attention, I beg to remain yours truly, F. PASCHAL,
President Texas State Medical Association.

Society Proceedings.

COMING MEETING.

Medical Society of the State of New York, Albany, Jan. 26-28, 1904.

AMERICAN SOCIETY OF TROPICAL MEDICINE.

First Public Meeting, held at the University of Pennsylvania, Philadelphia, Jan. 9, 1904.

A Vice-President, Dr. James M. Anders, in the Chair.

A brief statement of the scope and workings of the society was made by the secretary, Dr. Joseph McFarland of the Medico-Chirurgical College.

The Etiology of Yellow Fever.

DR. JAMES CARROLL, U. S. Army, a former member of the commission appointed by the Surgeon-General of the United States to investigate yellow fever at Havana, Cuba, made an address, reviewing in an interesting manner the early researches on the etiology of the disease, giving special consideration to the work of Freire, Sanarelli and Finlay. He then reviewed the work of the commission whose researches have now become world-wide and resulted in the proof that we have no reason to believe that yellow fever is propagated by any other means than the bites of the mosquito known as *Stegomyia fasciata.*

A description of the experiments made to show the infectiousness of fomites seemed to exclude all possibility of yellow fever being transmitted directly. It was with pleasure that the speaker reported that confirmation of all the work of the United States Commission had been given by the more recently appointed French Commission.

CHICAGO SURGICAL SOCIETY—CHICAGO MEDICAL SOCIETY.

Joint Meeting, held Jan. 13, 1904.

The President of the former, Dr. E. Wyllys Andrews, in the Chair.

Symposium on the Surgical Treatment of Bright's Disease.

DR. ARTHUR R. ELLIOTT read a paper entitled "The Medical Aspects of Decapsulation of the Kidneys for the Cure of Chronic Bright's Disease." A study of available statistics showed the total cases to be 76; died, 36; mortality ratio, 47.36 per cent.; improved, 26; improved ratio, 34.21 per cent.; unimproved, 12; unimproved ratio, 15.78 per cent.; rendered worse, 2; worse ratio, 2.66 per cent.; summary: 65.80 per cent. failed to be favorably influenced.

Dr. Elliott emphasized that chronic Bright's disease is a disease of the entire system, of very gradual development, and usually has existed for months and years before it is detected. It is produced by a chronic toxemia, either systemic or infective in origin, producing widespread arterial and cardiac degenerative changes, which, once established, are permanent, and which eventually constitute the most threatening element. General edema or anasarca is often largely a cardiac dropsy from myocardial degeneration. In like manner, developing anuria and uremia may be largely cardiac. In the later stages these cardiac aspects virtually convert the therapeutic problem into a question of sustaining a failing heart. Albuminuric retinitis is a terminal symptom. When it develops, death usually occurs in two years, and to operate hastens death.

General improvement after decapsulation does not prove the procedure justified, for mere hygiene and rest often will do as much. Within three and one-half months after decapsulation a new and usually a tougher fibrous envelope has taken the place of the original capsule. This may account for the many relapses and deaths.

DR. GEORGE F. SUKER followed with a paper entitled "A Consideration of the Surgical Treatment of Chronic Bright's Disease from an Ophthalmic Standpoint."

After analyzing statistics, he argued: 1, As at least 25 per cent. of all grades and varieties have retinal or other fundus complications; 2, usually of the degenerative inflammatory type, and, 3, as the cardiovascular system is or shortly will be seriously involved; 4, perhaps undetected; and, 5, proof of a general systemic circulating toxin; and, 6, as the death rate under medical treatment (hospital and private practice) is about 75 per cent. for the first year, and, at least, 85 per cent. for the second year, scarcely any surviving four years, and practically 100 per cent. when operated on; and, 8, as the medical treatment offers as good, if not far better, results; therefore, decapsulation of the kidney for chronic Bright's disease is absolutely contraindicated when a retinitis or a neuro-

retinitis albuminurica exists, with or without retinal hemorrhages.

DISCUSSION.

DR. E. WYLLYS ANDREWS reported four interesting cases. In three the procedure caused no more than temporary benefit, and in the fourth benefit was ascribed to a coincident nephropexy.

DR. A. J. OSCHNER said there are two distinct classes: One with healthy kidneys, in which a mechanical injury is corrected by fixation and decapsulation, the kidney itself containing the elements which were necessary for its recovery. In the other, the systemic conditions may prevent repair in spite of relief of tension or other burdens. He said sufficient observations had now been made to justify the profession in accepting the conclusions of Dr. Elliott.

DRS. L. L. MCARTHUR, RANDOLPH BRUNSON and ALEXANDER HUGH FERGUSON reported cases. The latter urged differentiation between cases suitable for this operation and those not suitable. He would decapsulate and suspend all tender and floating kidneys, and would decapsulate in certain cases of nephritis. He detailed several cases, and expressed himself as believing that there was a legitimate field for renal decapsulation.

DR. EMIL RIES narrated an interesting case of hematuria treated by decapsulation. From the kidney subsequently removed over six hundred sections were made. He examined every one, and among them there was but one anastomosis, and this was of scar tissue. This proved conclusively the incorrectness of the theory that success of decapsulation was due to anastomoses forming, as far as this example was concerned. He said he was skeptical as to the ultimate results of decapsulation.

DR. R. B. PREBLE called attention to alleged cures of Bright's disease, in which there was no proof of the cases being true chronic Bright's disease. He said that throughout the literature the terms nephritis and chronic Bright's disease were used interchangeably and that they were not identical terms. The difference between the two was clearly pointed out. The internist could not recommend his patients to undergo an operation which showed a mortality of 76 per cent. Renal decapsulation, therefore, was an unjustifiable procedure, without any reasonable, rational explanation having been offered as yet for its use, so far as he knew.

DR. ARTHUR DEAN BEVAN said that the operation was not the surgical treatment of Bright's disease, because the majority of surgeons of the world had never accepted the operation as being a logical procedure. The profession could safely say that stripping of the capsule as a treatment for Bright's disease was a complete failure, and should receive the stamp of disapproval of scientific men. Out of this work there had come some good, because it emphasized the importance of a class of cases in which another operation was of value, namely, in cases of anuria, of essential kidney hematuria, in chronic pyelitis with some nephritis, draining the kidney by a rapid nephrotomy was of a distinct value. It had effected a great many cures, and would accomplish more.

DR. JOSEPH L. MILLER said that in the statistics of Edebohls the analyses and diagnoses were too indefinite to enable anyone to draw any conclusions as to the value of this operation in nephritis. The profession needed a few cases, carefully studied before and after operation, to settle the question.

DR. GUSTAV KOLISCHER thought Drs. Suker and Elliott had struck the keynote, that the value of renal decapsulation was not well established. It was very essential to make diagnoses based on proper conceptions of pathology.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Regular Meeting, held Dec. 21, 1903.

The President, Alexander Lambert, M.D., in the Chair.

A Review of Some Statistics of Insanity.

DR. WILLIAM MABON, formerly the superintendent of the State Hospital at Ogdensburg, presented this paper. He pointed out that the proportion of insane to population twelve years ago was 1 to 374, now it is 1 to 303. Hospitals for the insane in New York State have an average daily census of 23,000, which was a good basis for the deductions following. During the past year in this state, Dr. Mabon said, 15.31 per cent. of the cases of insanity had been ascribed to moral causes, 53.16 per cent. to physical causes, whereas in 31.51 per cent. the cause could not be ascertained. Among the physical causes intemperance took the first place, as it was the cause in over 14 per cent. of the cases admitted, and was a contributing factor in 30 per cent. of all the cases received. Other physical causes were pregnancy, lactation, the menopause, fevers, privation, epilepsy, epidemic influenza, insolation, injuries and autointoxication. Of over 1,400 persons admitted, 17.71 per cent. apparently inherited the mental disease, 50 per cent. denied such heredity, and in 31.67 per cent. the facts on this point were not obtainable. Of the 73,000 cases treated in these hospitals since 1888, the insanity appeared to be hereditary in 22 per cent. There were twice as many widowed women as widowed men received. The admissions between the ages of 30 and 40 exceeded very largely those of any other decade, over 28 per cent. of all admissions occurring in this decade. Of the 7,619 admissions, only 112 led professional lives. More men than women recover, and, in hospitals, the chance of ultimate recovery was slightly better in acute mania than in melancholia. The death rate was about 5 per cent.

DISCUSSION.

DR. JOSEPH COLLINS severely arraigned the profession and the public generally for the utter lack of proper scientific treatment of the acutely insane. He said that these people did not require fine hospitals and modern laboratories so much as they needed careful medical treatment, such, for example, as would be given to a person ill with typhoid fever. He knew of only one asylum in this country that could boast of providing for this class anything worthy of the name of treatment, and that was the Shepard Asylum in Baltimore. It was all well enough to provide costly homes for the chronic insane, but it was of far greater moment to give succor and the right kind of care and treatment to insanity in its incipiency, and so prevent it, as far as possible, from becoming chronic.

DR. ALEXANDER LAMBERT said that the acutely insane received the treatment Dr. Collins advocated in the New York Infirmary for Women and Children, where a psychopathic ward had been in operation for two years, and was open to physicians who desired to treat their own patients there. He said it was not probable that our knowledge of insanity would be materially advanced except by a study of the brain in action. An effort to prosecute just such a research had taken the form of the New York State Pathological Institute, but its career of usefulness had been cut short because our legislators could not be made to see that it was a better investment for the people to spend a few thousand dollars a year in such study than to vote millions for the maintenance of costly hospitals for the chronic insane. To our shame, it must be said that the real deathblow to this institute was given by three members of the medical profession from other states. Certainly, the state had made great progress in the housing and general care of the insane, and the time was bound to come when the insane would receive proper treatment while the mental disorder was still in the acute stage.

DR. MABON said that scientific treatment of the acutely insane was given in the MacLean Hospital, Massachusetts, and in several of the state hospitals in New York. A very large proportion of those coming to these hospitals are already chronic insane, and proper provision must be made for them. Many of our modern state hospitals are now making an earnest effort to separate the acutely insane from the others and give them proper medical treatment in a special department of the hospital.

DR. FREDERICK HOLME WIGGIN showed specimens from cases of nephrectomy, appendicectomy and laryngectomy, and described the interesting features of each.

ACADEMY OF MEDICINE OF CLEVELAND.

Thirteenth Regular Meeting, held Nov. 20, 1903.

The President, Dr. Harris G. Sherman, in the Chair.

Chronic Ulcer of the Stomach and Duodenum from a Surgical Standpoint.

DR. WILLIAM J. MAYO, Rochester, Minn., in this paper, said that the stomach acts as a fuel storehouse, and in it the food is macerated and broken up by the aid of a weak solution of hydrochloric acid and pepsin; the resulting product is slowly passed on into the small intestine, the first portion of which is more nearly related to the stomach than the intestine, the latter really beginning at the common duct. This first portion of the small intestine, he regards, for its length, as the most frequently diseased part of the alimentary tract. The pylorus is compared to the gizzard of a fowl, as it pulverizes the food. At operations, ring-like constrictions or vermicular movements of this part of the stomach can be seen. Two facts are pre-eminent in the history of gastric ulcer: First, that 75 per cent. occur in the pyloric end, the part most exposed to mechanical injury, and, second, that usually there is a relative increase in the hydrochloric acid. This is an important etiologic factor in the causation of duodenal ulcer above the common duct and occasionally in the appearance of secondary jejunal ulcer after gastro-enterostomy. The statistics as to the frequency of gastric ulcer show that women are affected more than men, especially as regards the small acute ulcer; in about 20 per cent. of cases more than one ulcer exists, and at least 75 per cent. of all gastric ulcers are in the pyloric end; the chronic duodenal ulcer is found most frequently in adult males. The most prominent symptom of chronic ulcer is pain, often burning or boring, but varying in intensity; taking food usually increases it, but may give relief. Periods of freedom from pain, often lasting weeks or months, may lead to the erroneous belief of a cure, only to be followed by a return of the symptoms. Owing to the pain after eating, the patient reduces his diet to a minimum and vomiting is rare unless there be obstruction; hemorrhage in appreciable quantities is rare. Passing the stomach tube may be impossible during the attack of pain; the stomach, however, is not sensitive to touch, but the gaseous distention, which usually occurs, is very distressing. Duodenal ulcer presents symptoms of a similar character, but may be confounded with biliary calculi; the lapse of time between taking food and the onset of pain is not of much value in determining the location of the ulcer.

The general tendency to consider all palpable tumors of the stomach malignant is erroneous. Excess of hydrochloric acid is the only laboratory test of any value and then only as corroborative evidence. Most cases of chronic ulcer develop changes in the size and position of the stomach, due to cicatrices, contractions or adhesions; the most important is a narrowing or fixation of the pylorus leading to the so-called pyloric syndrome of Hartmann—pain, indigestion, gas and hypersecretion; frequently peristaltic waves in the gastric area can be seen. Distention of the stomach with air pumped in with a Davidson syringe will decide the question of dilatation or prolapse. Pyloric obstruction is indicated by dilatation, stagnation and retention of food causing fermentation, late vomiting and emaciation; the condition can be aptly compared to a valvular heart lesion, periods of dilatation and gastric insufficiency alternating with spells of comparative health due to compensation effected by hypertrophy. The best practical test as to loss of motility is the finding of remnants of food in the stomach on using the tube before breakfast. Chemical and microscopic examination of the gastric contents is often of little value. The history and the physical examination of the stomach, especially when artificially distended, usually lead to a correct diagnosis.

Statistics all agree on the frequent failure of medical treatment in these cases. The development of cancer on chronic ulcer is also a risk. He warns against operation in cases of gastric dilatation and gastroptosis without organic lesion. An incision in the median line between the ensiform cartilage and the umbilicus is advised; this allows the movable part of the stomach to be withdrawn from the abdomen; the examination should be thorough, including the fundus, the region of the cardiac orifice, the duodenum and the gall bladder; if one ulcer be found, search must be made to see if others are also present. Enlarged glands in the omenta are useful in locating the lesion; they are usually found in the gastrocolic rather than in the lesser omentum; the examination of the posterior wall may necessitate opening the lesser peritoneal cavity through either the lesser or gastrocolic omentum. Exploration of the interior of the stomach through an incision in the anterior wall is advisable, but even in this way it may be very difficult to locate the ulcer. The indications for the surgeon are the consideration of the ulcer itself and the relief of the complicating dilatation, distortion and adhesions. The keynote is drainage, and for this purpose gastro-enterostomy is the operation of widest application: excision of the ulcer or of the whole ulcer-bearing area, i. e., the muscular pyloric region, as advised by Rodman, may be indicated; pyloroplasty is safe and has a small field of usefulness, but in these cases the gastroduodenostomy of Finney gives far better results. This operation is specially indicated in late cicatricial stenosis and contraction, but will probably often fail in open ulcer; the mortality in either of these procedures is very low. Gastrojejunostomy is the operation of choice, as it drains the stomach to the best advantage, and the new opening will not contract if the pyloric orifice be already contracted or artificially made so at the time of the operation. The formation of secondary peptic ulcer of the jejunum, a tendency to drag on the point of attachment, and secondary contraction of the opening, are more apt to occur after the anterior than the posterior operation. The best method is posterior suture gastro-enterostomy made within 4 inches of the origin of the jejunum; the Murphy button makes the most perfect opening, but is apt to be retained in the stomach; the McGraw ligature is very safe, and a fine opening is secured—it is particularly indicated in cancer and by the anterior operation; by suture a large opening can be made. All these methods give good results. In a series of 238 gastro-enterostomies for all causes performed by Mayo and his brother there was a mortality of 25 per cent. in malignant cases and 7 per cent. in non-malignant cases; 6 per cent. of the cases required a secondary operation. Other things being equal, the posterior method gave the most permanent results, but at a small increase of risk. In cancer early operation is requisite and diagnostic exploratory incision is necessary; very few of the 135 cases operated on for gastric cancer failed to live 12 months or more, and he is convinced that in 5 years as good results will be secured as in cancer of the breast; 60 per cent. are located in the movable pyloric region, and as the lymphatic supply is the same as the vascular the greater part of the stomach can be removed and the remaining portion employed for a gastro enterostomy; the operation can be made nearly bloodless by tying the four blood vessels as in a hysterectomy; wound inoculation can be prevented by severing the tissues with the cautery; by suturing the edges, distal to the clamps, the gastric and intestinal cavities need not be opened, and after permanently closing these openings a healthy portion of the stomach may be used in performing the gastro-enterostomy in the usual way.

DISCUSSION.

The discussion was opened by Dr. A. J. Ochsner of Chicago, who said that the differential diagnosis between chronic ulcer and gallstones is often difficult, but not important, as surgical intervention is indicated in either case. The examination of the interior of the stomach is not necessary, as drainage is the indication, not excision of the ulcer. There is a certain class of cases often diagnosed as gastric ulcer in which the appendix is at fault, not the stomach. The symptoms are referable to the stomach, but the pain is found to occur when pressure is made over the appendix. Some cases of locomotor ataxia may cause confusion. Neurasthenia may be secondary to gastric ulcer, so that the latter is not to be excluded if the former be present. The presence of a tumor is not a contraindication to operation; he has seen the removal of benign tumors give relief. The desire for food is not a sure sign

in the differential diagnosis between cancer and ulcer; the decomposition of food in the dilated stomach, especially after hemorrhage from ulcer, may cause marked anorexia. The indication in chronic ulcer is clearly gastro-enterostomy, and the operation must be made at the most dependent point of the stomach to prevent regurgitation of intestinal fluids with the resulting vomiting. In the diagnosis the excess or absence of hydrochloric acid must not be relied on. He thinks the suture will prove the favorite method of operation, some method similar to that of Mikulicz. He favors the McGraw ligature and the anterior operation. In cancer the operation must be early. More cases are constantly coming to operation on account of the steadily increasing success of gastric surgery. The operation of gastrectomy after ligating the vessels and using clamps, as Mayo mentions, is comparatively simple, and is steadily gaining in favor.

The paper was also discussed by Drs. Stamm of Freemont, Hamilton of Columbus, Peck of Youngstown, Dickenson of Ashtabula, Sawyer, Allen, Parker, Hoover, Lowman, Biggar, Crile, Scott, Bunts, Rosewater, and House, of Cleveland.

Dr. Mayo, in closing the discussion, thought that medical means should certainly be first tried, but the trouble was that after so many medical cures relapses occurred. As to the efficiency and limitations of the surgical relief, accurate prognosis is not yet possible, but the results are most encouraging.

Therapeutics.

[Our readers are invited to send favorite prescriptions or outlines of treatment, such as have been tried and found useful, for publication in these columns. The writer's name must be attached, but it will be published or omitted as he may prefer. It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Herpes Zoster.

The local treatment of herpes zoster, according to the *Encyc. Med. and Surgery*, consists in protecting the parts from injury and infection and to relieve the pain. For the latter symptom the following is recommended:

℞.	Morph. sulph.	gr. v	30
	Pulv. camphoræ	gr. xx	1 30
	Pulv. zinci oxidi	ʒi	30

M. Sig.: Dust on the affected area, cover with cotton, and bandage.

Or the following may be substituted:

℞.	Morph. sulph.	gr. x	65
	Collodii (flexible)	ʒi	30

M. Sig.: To be painted over the affected areas.

The galvanic current, applied along the course of the nerve, may be advantageous in giving marked relief from the pain.

Internally the following may be prescribed if the pain becomes so severe as to require an anodyne:

℞.	Morph. sulph.	gr. 1/8	008
	Phenacetini	gr. ii	12
	Quininæ sulph.	gr. i	06

M. Ft. cap. No. i. Sig.: One such capsule every four hours.

The phosphide of zinc, given in doses of one-third (.02) of a grain and repeated every three hours, is strongly recommended. For the neuralgia persisting after the eruption has disappeared, quinin, iron, strychnin and arsenic are of value.

Fever Diet for Children.

Augustus Caillé, in *Post Grad.*, recommends a so-called "fever diet" in all febrile conditions in children. The food should be semisolid, so as not to overtax the feeble digestion or leave a large residue in the intestine for decomposition which would favor autointoxication or local irritation.

He recommends an exclusive milk diet for infants up to 8 months; also in typhoid fever, in acute and chronic Bright's disease and in acute pyelitis and scarlatina of children. In older children he prefers to add gruels and farinaceous and aromatic waters to the diet list. Boiled and cooled water should be offered freely to favor excretion and elimination by skin and kidneys. In older children who no longer take the bottle, food may be selected from the following list: water, toast water, farinaceous water, gum arabic water, egg white in water, peppermint tea, imported ginger ale, black tea, milk, matzoon, kumiss, buttermilk, whey; sterilized, pasteurized, peptonized milk, malted milk, beef broth, mutton broth, chicken broth, Mosquera's beef jelly, soups, gruels, cornstarch pap, pea soup, burnt flour soup, eggnog, somatose in peppermint tea, custard, ice cream, water ices, orange or pineapple juice and unfermented grape juice.

Milk is contraindicated, according to the author, in dyspeptic and inflammatory diarrheas and in cases of milk idiosyncrasies; also in typhoid cases accompanied by marked tympanitis. In such conditions some of the foregoing preparations may be substituted.

Rectal feeding is advised when food is not tolerated by the stomach or after an injury or operation on the stomach. It must also be employed where there is inability to swallow or in gastric ulcer, in incessant vomiting or in the insane. He then states the usual technic of rectal feeding. The fluid should consist of milk or gruel with egg, whiskey or peptonized food in watery solution. Children will usually retain from two to eight ounces. He further states that too much must not be expected from rectal alimentation on account of its little influence in counteracting the pernicious action of bacterial products or toxins on the nerve centers.

DIET IN CONVALESCENT STAGE.

The author recommends in cases of breast and bottle-fed infants, a gradual return to the food of the child given in health; and for older children, in addition to their milk, some of the following articles may be given:

Well-cooked cereals, cornstarch pap, bread pudding, scrambled eggs, calf's-foot jelly, beef jelly, milk toast, sponge cake, apple sauce, baked apples, scraped meat, bread and zwieback.

Migraine.

Rachford, in *Med. News*, states that the treatment of migraine, in order to be successful, must be continued for many months, and the success of the treatment depends to a great extent on the simplicity and palatability of effective medication. He recommends the following combination:

℞.	Sodii sulph.	gr. xxx	2
	Sodii salicylatis (from wintergreen)	gr. x	65
	Mag. sulph.	gr. l	3 30
	Lithii benzoatis	gr. v	30
	Tinct. nucis vom.	gtt. iii	20
	Aquæ destil. q. s. ad	ʒiv	120

M. Sig.: To be charged with carbonic acid and one-quarter to one-half glass to be taken in the morning on rising, one-half an hour before breakfast.

He recommends that the foregoing combination be made up in large quantities and sent to a mineral-water factory and charged with the gas and placed in small-sized bottles. Given after this fashion the author states that this medication may be continued for weeks or months without losing its therapeutic value or producing disgust on the part of the patient. If this combination proves to be too much of a laxative one of the following combinations may be used in its stead:

℞.	Sodii sulph. (gran.)	ʒii	8
	Sodii phos. (gran.)	ʒi	4
	Sodii salicylatis	gr. x	65
	Tinct. nucis vom.	gtt. iii	20
	Aquæ destil. q. s. ad	ʒiv	120

M. Sig.: To be taken each morning on rising, one hour before breakfast; or:

℞.	Pot. bicarb.	gr. xx	1 30
	Sodii et potassii tartratis	ʒi	4
	Sodii salicylatis	gr. v	30
	Tinct. gent. comp.	ʒiv	15
	Aquæ destil. q. s. ad	ʒiv	120

M. Sig.: To be taken in the morning before breakfast.

In the early part of the treatment the author recommends the administration of sodium benzoate, sodium salicylate or

cannabis indica. The first preparation may be given in doses of twenty grains each (1.30) after lunch or dinner administered in peppermint water or some carbonated water. If sodium salicylate is preferred, it should be given in capsules in three to five grain (.20-.30) doses after lunch and dinner.

In children salol may be substituted, or in some cases salicin.

Cannabis indica is of great value, given in quarter-grain (.015) doses three times a day, in controlling the paroxysms of migraine and may be continued, if necessary, for three or four weeks, until the patient becomes accustomed to the siphon treatment. It may, if thought advisable, be combined with sodium salicylate or salol. All medication, except the siphon, should be discontinued after three to six weeks, unless, perhaps, it is necessary to give an intestinal antiseptic, in which case a one-grain salol coated pill of potassium permanganate is taken three times a day after meals, or in its stead the following more preferable combination:

℞. Sodii sulphocarbol. .....gr. v |30
Potassii permangan. .....gr. i |06
Beta-naphthol .....gr. i |06

M. Ft. pilula No. i. Sig.: One such after meals and at bedtime.

To make a convenient carbonated draught the following may be used:

℞. Sodii salicylatis (wintergreen) .....3ii 8|
Sodii phos. (dry) .....3iv 15|
Sodii sulph. (dry) .....3x 40|

M. Sig.: One teaspoonful to be taken in a glass of seltzer water on rising.

In children too young to take the charged combination the following combination is recommended by the author:

℞. Sodii sulph. .....3iiss 10|
Mag. sulph. .....3v 20|
Lithii benzoatis .....3ii 8|
Elix taraxaci
Aquæ destil., āā.....℥iii 90|

M. Sig.: One tablespoonful before breakfast for a child of eight years.

If the patients become, for any reason, nauseated by the use of this siphon method of treatment, dilute nitromuriatic acid is recommended after meals and cascara sagrada or the compound licorice powder at bedtime. After substituting these preparations for one week the charged preparations may be again taken.

Acute Colds.

In cases of acute colds, accompanied by pharyngitis, the *Encyc. of Med. and Surg.* recommends an application of silver nitrate grains fifteen (1.00) to the ounce (30.) of water or the following combination:

℞. Glyceriti acidi tannici .....℥ii 60|

Sig.: To be applied locally three or four times daily; or:

℞. Menthol .....gr. iii |20
Liq. petrolati .....℥i 30|

M. Sig.: Apply locally.

As an inhalation the following combination is recommended:

℞. Spts. chloroformi .....m. v |30
Menthol .....gr. iii |20
Tinct. benzoini co. .....℥i 30|

M. Sig.: One teaspoonful to be floated on a pint of hot water and inhaled twice daily.

Internally the following is of service:

℞. Codeinæ sulph. .....gr. iii |20
Glycerini
Syr. simplicis, āā .....3ii 8|
Sol. pot. citratis q. s. ad.....℥iii 90|

M. Sig.: Two teaspoonfuls every three or four hours.

Children Predisposed to Phthisis.

McConaghy, in *Internat. Med. Mag.*, recommends, in the management of children predisposed to tuberculosis, that:

1. On rising, a glass of hot or cold water should be taken.
2. Breathing and other exercise in a well-aired room.
3. A regular time for stool immediately after exercise.
4. Cold bath with vigorous rubbing, upward, of the body.
5. A play of one hour in the sunshine every day.
6. Encourage proper carriage of the body, chest upward and forward, abdomen drawn in and arms hanging loosely.
7. Cultivate habit of breathing on the street, and breathe through the nose.
8. Sleep on hard bed and without a pillow.
9. Limit the child's studies.

Medicolegal.

Physician Must Show Compliance with Statute.—It is now settled, the Court of Civil Appeals of Texas says, in the case of Wooley vs. Bell, that a physician can not recover for professional services unless he shows compliance with the statute of this state (Texas) regulating the practice of medicine.

Milk-Supply Law Upheld for Bacteriologic Reasons.—The Court of Appeals of Kentucky says, in the case of Sanders vs. Commonwealth, that the development in the science of bacteriology in recent years has conclusively proven that the microbe is a most potent agent in the propagation of contagious diseases, and that there is no more favorable element for their absorption, growth and development than milk, and that milk contaminated by their presence communicates diphtheria, typhoid fever, tuberculosis, and other kindred diseases, to human beings, especially to the young. And it is a matter of common knowledge that the conditions usually prevailing around places where "still slop" is produced are also highly favorable to the development of many forms of bacilli. The heat, dampness and fermentation—all essential elements in the production of still slop—are favorable to germ growth. So that it may be fairly assumed that the general assembly, in the enactment of a statute prohibiting the sale of milk from animals fed on still slop, had sufficient information to justify the belief that such milk had ample opportunity to become impregnated with elements dangerous to the public health. Nearly every police regulation affects to some extent property rights, and, while this power can not be made the excuse for oppressive and unjust legislation, the courts are not permitted to say that the legislature may not enact laws apparently necessary for the public health. Wherefore, the court reaches the conclusion that it has no power to hold that the general assembly did not have under the "police power" authority to enact the statute mentioned.

Practicing Medicine.—In Springer vs. The District of Columbia, where the Court of Appeals of the District of Columbia affirms a conviction of practicing medicine and publicly professing to do so without first having obtained a license so to do in the manner required by law, the court says that the statute not declaring what specific acts shall constitute "practicing medicine," or what it is to "publicly profess to do so," it is for the courts to determine whether the facts proved in a particular case bring it within the terms of the statute, taking these in the sense in which they are commonly understood. Here it appeared from the evidence that the party proclaimed himself an expert in the treatment of alcoholism, and had several patients. He furnished the remedies and employed licensed physicians to take immediate charge. These gave his remedies, and the only discretion exercised by them was in respect of the frequency of the doses, and of any complication that might ensue. In other words, professing knowledge of the science of medicine, he obtained patients, diagnosed their cases, decided that they were suffering from a malady for which he had discovered or compounded a remedy, prescribed and furnished that remedy, and employed other physicians to take immediate charge of the patients and administer the same. Selling his compound to such persons as he might examine and pronounce fit subjects of medical treatment was "practicing medicine" as much as if he had given them, instead, an ordinary prescription that could be satisfied in any regular drug store. The fact that he registered at a hotel as "Dr." would not be sufficient proof of a violation of the statute, but it was admissible to show, in connection with other evidence, that he held himself out as a practitioner.

Against Compulsory Physical Examination—as to Urine.—In Austin & Northwestern Railroad Company vs. Cluck, a personal injury case brought by the latter party, the Supreme Court of Texas considers, as a practically new question, the authority of the court to require the party suing in such a case to submit to a physical examination by a committee to be appointed by the court. It says that the right to have such examination is supported by the greater number of decisions of the courts of the states of this Union and by the text writers. But it is of the opinion that the fact that no such examination was ever authorized by a court at common law in England is conclusive that those courts had no authority under the common law to make such order. It says further that the provisions of the constitution and statutes of Texas with regard to the practice and jurisdiction of courts are antagonistic to the spirit and purpose of such proceedings. The constitution secures every citizen of the state against any seizure or search of his person which is not plainly authorized by some law of the state. Whether, under the constitution, the legislature might authorize the physical examination of a party to a suit, is not determined. The legislature has not only failed to provide for a physical examination of parties, but has actually repealed from the common law in the state the only proceeding that bore the slightest resemblance to it, namely, the right of view, by which a party sought to have his witnesses examine the premises to qualify them to testify. And it deems it sufficient to say for the courts of Texas that the authority to order such an examination and force a party to submit to it is found neither in common law nor in the statute laws of the state, and therefore does not exist and can not be exercised by the courts of Texas. It may be true that evil practices by plaintiffs in these cases have grown up, but it is equally true that to establish such a rule of practice would place in the power of defendants in damage cases the means of annoying plaintiffs, and of intimidating the most worthy of the complainants in such suits. Then, at the trial of this case, after the testimony of physicians who had treated the party suing for his injuries had been introduced, and he had himself testified as to his injuries and the circumstances under which he received them, the attorney for the railroad company propounded to him this question: "Are you willing, in the presence of some reputable person, or by yourself, and subsequently to be supported by your affidavit, that it is urine voided by you into a vessel which is absolutely free from any foreign matter, to furnish a specimen of your urine, voided under the circumstances stated, to a committee of competent physicians to be appointed by the court, so that an analysis of that urine may be made?" The Supreme Court holds that an objection to this was properly sustained. It says that the same objections apply to this procedure as to that which sought a physical examination of the party suing. The court could not enforce such an order without taking possession of his person and exercising coercive power to compel him to perform the act. Again, the Supreme Court says that the reason for refusing a physical examination of the party suing is not that the other party is not entitled to have the benefit of the evidence, but because the court has no power to force him to submit to such an examination. He has a right to submit or refuse, but, in case he should refuse, the party sued is entitled to have that fact go to the jury, to be considered by them in determining on the credibility and sufficiency of the testimony on which he seeks to recover. If the jury should believe that the refusal showed a purpose to conceal the truth, they might take the fact into account in weighing the evidence. If a satisfactory reason should be given for the refusal, and other evidence were sufficient, the refusal would not defeat a recovery. The suggestion that the court might enforce its order by refusing to submit the case to a jury is not sound, for in this state a party is entitled to a trial by jury whenever he produces evidence which shows *prima facie* a right to recover. In case of unreasonable refusal to allow examination, the court could and should set aside the verdict, unless the evidence satisfactorily established the right.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical News, New York.

January 9.

1 *The Mortality of Appendicitis. Frederick S. Dennis.
2 *The Relation of Proteids to Edema in Marantic Children; with Urinalysis in Infantile Diarrhea. Palmer A. Potter.
3 *Diagnosis of Gall-bladder Diseases. J. Thompson Schell.
4 *The Diagnostic Value of the Roentgen Rays. Charles L. Leonard.
5 *The Value of Climate in Genito-urinary Tuberculosis. W. H. Prioleau.
6 Seasickness. William F. Waugh.

1. **Appendicitis.**—Dennis holds that the average mortality of appendicitis under medical treatment is about 16 per cent., with 30 per cent. of relapses, while with diffuse suppurative peritonitis it is almost uniformly fatal. On the other hand, the mortality in appendicitis in all cases under surgical treatment is about 4 per cent., with no relapses, and in diffuse suppurative peritonitis the mortality given by the statistics is from 31 per cent. to 90 per cent. In 11 consecutive cases here reported the mortality was 0. He comes to the conclusion that after thirty-six hours, if the case is not improving, it should be operated on at once, and in other cases where the attack runs a favorable course the interval operation should be performed. The plan of allowing simple catarrhal cases which are doing well within thirty-six hours to recover without intervention, and prompt operation after thirty-six hours, when the cases are not doing well, gives the best prospects. The pendulum, he thinks, has swung too far toward indiscriminate operation. In his last 119 cases up to April, 1903, the mortality, irrespective of operation or any plan of treatment, was a little over 1.5 per cent. In cases treated without operation in which the attack was a mild catarrhal one, and the patient not operated on during the attack, the mortality was 0. In many cases the appendix was subsequently removed owing to repeated attacks, without any mortality. A gangrenous appendix rupturing into the peritoneal cavity with general peritonitis occurred in 11 of his cases. In cases where there was acute perforative appendicitis with gangrenous appendix in a circumscribed abscess cavity, the mortality was 7 per cent. Two fatal cases out of the 119 were hopeless from the start, but were operated on as offering the only chance. Without these the whole series gives no mortality. He would impress on the family physician the fact that appendicitis is essentially a surgical disease and early operations are almost always successful. The mortality can only be reduced by the hearty co-operation of the physician and surgeon.

2. **Infantile Diarrhea.**—Potter has sought to settle the question whether the kidneys are involved in the summer diarrhea of infants. He concludes that acute diarrheas—not protracted cases—are not accompanied by kidney involvement. Alcohol, therefore, is not injurious in this condition if it is necessary as a stimulant. Edema in the diarrhea of marantic infants is a bad sign, but not necessarily fatal, and it is not due to the heart or kidneys. The bad general condition is best treated by disregarding the diarrhea and increasing the strength of the proteid nutrition.

3. **Gall-Bladder Diseases.**—Schell's article is a general review of the diagnostic points of gall-bladder diseases.

4. **Calculus and the X-Rays.**—The special point of Leonard's paper is the use of the Roentgen rays in diagnosing renal and ureteral calculus. From a study of 300 cases referred for examination, he finds that calculi were found in 86, or about 28 per cent. In 46 of these cases, or over 50 per cent., the calculi were in the ureters. In 19 cases the patients passed the calculi after expectant treatment had been suggested by the Roentgen examination. Positive diagnosis was confirmed in all the cases except 5, and in these the operation was performed late, and it is possible that the calculi had passed away. He advises repetition of examination if the operation has been delayed, to make sure of the actual condition, and as to whether or not the cases still require operation. The negative diagnosis has been found as accurate as the positive. Where the Roentgen method shows no calculi present in the kidney, in-

cision, he thinks, is not justified unless some other macroscopic pathologic lesion is present. In favorable cases, that is, patients weighing under 140 pounds, detail can often be obtained of the soft tissue structures that will suggest some condition other than calculus that is present. Thus displaced kidneys and pus collections have been observed. His technic in calculus diagnosis is based on the axiom that where shadows less dense than the least dense calculus are obtained, no calculus should escape detection. He uses a self-regulating tube, which maintains itself at a low vacuum steadily during the entire exposure. The coil or source of energy must produce a large volume of Roentgen rays of low penetrating quality. The method has already rendered operation unnecessary in a number of cases, increasing the value and efficacy of operation, while lessening its dangers and minimizing the amount of operative lesion.

5. **Genito-Urinary Tuberculosis.**—Prioleau favors moderate elevation for cases of this class. There are cases that respond most readily to treatment at sea level. At no time should a patient with kidney tuberculosis be sent to an extreme altitude, as increased altitude adds to the work of the already inflamed kidney and does away with the benefit otherwise obtained. Moderate elevation is favorable to the patient, as he can return home with the least probability of its reappearing. Climate alone is not the only thing; he mentions over-feeding as one of the dangers in these cases. We must rely on hygiene and diet, and as an adjunct, use antiseptics and sedatives, always selecting a suitable climate for the patient the same as if his lungs were diseased.

Medical Record, New York.

January 9.

7 *Etiology of Rheumatism: Obscurity, Insidiousness, Prevention and Management in Childhood. Joseph E. Winters.
8 *Remarks on the Management of Fractures Involving the Joints. Virgil P. Gibney.
9 *The Principles of Diagnosis of Medical Malingering. John Punton.
10 Congenital Orbital Sarcoma of Endothelial Origin in an Infant. Operation and Preservation of Globe. Mortimer Frank.
11 *Mixed Anesthesia, with Special Reference to the Administration of Hyoscin Hydrobromate Before Ether. E. A. Robertson.
12 The Early Diagnosis of Pulmonary Tuberculosis. Floyd S. Clarke.
13 *A Simple and Accurate Method of Examining the Stools for Gallstones and Other Solid Bodies. Howard Lilienthal.

7. **Rheumatism in Childhood.**—Winters holds that rheumatism is due to the absence of potassium and sodium salts in the tissues. To supply this the alkalies in organic combination as produced by nature in fruits and foods, especially the vegetable acids, are required. He notes the obscure symptoms of rheumatism in children and its importance as bearing on cardiac involvement. To meet other physiologic requirements, animal food is requisite, but it should not exceed the needs so as to lead to over-stimulation and defective metabolism. To meet the rheumatic condition he would begin with calomel followed by rhubarb and soda, the latter to be persisted in as long as the tongue is furred, the soda to be given in 20-grain doses, t.i.d., before eating. Milk should be the sole food while the symptoms exist. The first extension of the diet should be the addition of a strained cereal, which should be given without the child's knowledge and should be taken without sugar. When animal food is added it should be in the form of meat, not broths or beef juice. Vegetable soups, bean, tomato, etc., are nutritive and appetizing. When all rheumatic manifestations have been dispelled, animal broths *on cereals* serve for stimulating the appetite. When the tongue is clean and the rheumatic symptoms banished, begin in due succession with strained cereals, *vegetable* soups, cereal as a vegetable, with butter and salt, baked potato, bread, green vegetable and fruit. The failure in the dietetic management in the past has been in the excessive use of broths, sugars and sweets, the use of alcohol, and the withdrawal of fruits and cereals.

8. **Fractures Involving the Joints.**—Gibney's paper, as he expresses it, is a plea for plaster of paris as a dressing for fractures, and a comparison of joint injuries from trauma and those from disease, the harmlessness of the one and the ravages of the other. He favors a careful study of the mechanism of the joints in setting the limb and a knowledge of the muscles involved, plaster applications to be based on these. The normal tendency of all joints damaged by trauma is toward flexion deformity, and it is important to recognize this factor, as, if left too late, it may be difficult to remedy. His attention has often been called to the too-shortened condition of the tendo Achillis due to the foot being in many cases put up in moderate extension. The fact of the unpopularity of plaster of paris he thinks is largely due to the little instruction that students receive in regard to its application, and the carelessness with which it is applied. He speaks against passive motion after fractures.

9.—See abstract in THE JOURNAL, xli, p. 1,041.

11. **Anesthesia.**—Robertson has employed hyoscin hydrobromate in connection with ether anesthesia in 57 cases of abdominal and other operations in adult women and with excellent results. He usually gives .01 of a grain of hyoscin hydrobromate hypodermically half an hour before the beginning of ether inhalation, causing dryness of the mouth, thirst and dilatation of the pupils, at which time ether is administered. The administration causes little secretion of mucus, the patients are less anxious, there is a tendency to sleep after recovery from the anesthesia, which is more rapid as a rule than when ether alone is given, and in no case was there any severe or prolonged after-vomiting. It was altogether absent in at least half the cases. In 55 cases the patient was absolutely quiet during the administration. In none of the cases was there any bronchitis following the ether or other respiratory disturbances. The hyoscin hydrobromate, he thinks, acts by counteracting the over-stimulating effect of ether, decreasing the amount of mucus, which obstructs respiration, etc. If it proves to be free from danger it will be a valuable aid in the administration of ether.

13. **Examining the Feces.**—Lilienthal fastens to a wire loop a bag of at least two thicknesses of gauze dressing or mosquito netting, which he places in the water closet receptacle as a sieve so that the free turning on of the water after defecation washes away all except the solid constituents and thus reveals, without the usual objectionable incidents of straining of the feces, the presence of gallstones, etc.

New York Medical Journal.

January 9.

14 *Radium: Induced Radioactivity and Its Therapeutical Possibilities. Samuel G. Tracy.
15 Some Observations on an Unusual Case of Scurvy. Joseph Davidson.
16 The Treatment of a Certain Class of the Underfed. William S. Ely.
17 *Concerning the Accuracy of Percentage Modifications of Milk for Infants. (To be concluded.) David L. Edsall and Charles A. Fife.
18 *A Bacterial Treatment of Tuberculosis; with Reports of Cases. (Continued.) Stephen J. Maher.
19 The X-ray Technic of Dr. H. Albers-Schonberg. Eugene R. Corson.

14. **Induced Radio-activity and Its Therapeutic Possibilities.**—Tracy found by experimentation that normal salt solution was one of the best substances for the manifestation of induced radio-activity. He inserted into a bottle containing the solution two hermetically sealed tubes of radium bromid, leaving them for twenty-four hours, and then let the salt solution stand in the rack for twenty-four hours more. He then tested the fluid and gives the results in skiagraphs produced by its influence. It has suggested to him that the property radium possesses of imparting its activity to other fluids, for example, normal salt solution, seems to offer the hope that in this way it may be therapeutically administered, and the fight against bacterial disease affected through the agency of the fluid and lymph circulation and internal secretions. "Radium fluid," it is true, only holds this property temporarily, but the manufacture of it is so simple that when radium is more available than it is at present there will be no difficulty in keeping up the supply. The emanation will escape rapidly when the patient drinks the water, but the "active matter" which is produced, according to Professor Rutherford of McGill University, will remain with the water and produce radiations for a couple of hours, after which its intensity becomes very small. Tracy suggests that in this "radium fluid" we may have the

means of striking at the root of certain diseases, such as diphtheria, tuberculosis, typhoid, etc., also fermentative gastro-intestinal indigestion, with its attendant auto-intoxication. Its local employment is also suggested. While the results may not realize these anticipations, it is certainly worth while, he thinks, to try the experiments.

17. **Milk Modifications.**—Edsall and Fife have examined various milk-mixtures, estimating the fat and proteid as agreeing with theories, and found that in the first series of home modifications, made of certified milks and creams by persons of intelligence, the proteid content was satisfactorily accurate, the widest variations from the standard being small, .2 of 1 per cent. The fats varied widely, with errors from .8 to 1.6 per cent. in this small series. (The article is to be concluded.)

18. **Tuberculosis.**—This installment of Maher's article is entirely given up to the reports of cases.

American Medicine, Philadelphia.

January 9.

20 *Amputation at the Hip-joint for Sarcoma. With a Report of Seven Cases Without Mortality; Subsequent History of Patients. William B. Coley.
21 *Can Our Procedures for the Judicial Determination of the Cause of Death Be Bettered? Solomon Solis-Cohen.
22 *Observations on Uncinariasis. Louis M. Warfield.
23 *Results of an Experimental Treatment of Epileptic Insanity. J. W. Wherry.
24 Care of Sputum of Tuberculous Patients. J. W. Kime.
25 *Ithaca Epidemic of 1903. Luzerne Coville.

20. See abstract in THE JOURNAL of January 9, p. 118.

21. **Causes of Death.**—Solis Cohen notices the difficulties appertaining to the judicial determination of the cause of death and suggests a jury of experts, 5 to 7, selected to meet the conditions in question. In deciding as to the cause of death they should not be required to reach a unanimous verdict, but a majority and minority report; several minority reports or individual jurors' reports in extreme cases might be handed in. Of couse, the unanimous verdict would be the one to be preferred, but this method would be more apt to bring about the truth and aid justice.

22. **Uncinariasis.**—Warfield, from his observations in Georgia, concludes that there is a direct relation between the so-called ground itch and uncinariasis, but he does not assume that the parasite necessarily finds its way to the blood directly through the skin, while he can not deny this possibility after Loos' conclusive experiments. The mode of infection, he believes, is by children scratching the itching surface and introducing the embryo afterward by the fingers into the mouth. Uncinariasis is one of the commonest diseases of the south, and its introduction by any other method in children is improbable. Its prevention lies in the use of latrines easily cleansed and disinfected, and thoroughly closed from access by barnyard fowls, etc., and the general education of the medical profession in the country districts as to the nature and prevention of the disorder.

23. **Epileptic Insanity.**—Wherry reports a new method of treatment inaugurated in the Clarinda State Hospital of Iowa, in which, instead of the bromides, the vasodilator drugs are employed and with most excellent results. The fundamental principle is the combination of vasodilating drugs with saline cathartics and an alterative, the principal ingredients to be left to the judgment of the attending physicians. The results are significant in view of the theory that the disease may be due to a vasomotor spasm. He tabulates his experience, showing a number of fits before and after treatment which seemed to indicate the value of the method.

25. **The Ithaca Typhoid Epidemic.**—Coville gives a brief history of the progress of the Ithaca epidemic and its causes, calling attention to certain peculiar features, among which he enumerates the absence of sure causal proof, the sharp onset and abrupt termination of the epidemic, the large number of typical cases and the cyclic recurrence of the symptoms after fourteen days' interval. Many cases were severe and septic, but there was a relatively small number of relapses in the typical ones. The drinking of city water seemed to be the most obvious cause; the milk supply had not been infected. Infection by other sources was not observed. The death rate was much higher in students than among the townspeople; physicians and trained nurses were practically immune. The total death rate under the conditions was low, 6.6 per cent. All the physicians had practically the same average. The number of cases, over 1,300, and probably over 1,400, was notable.

Boston Medical and Surgical Journal.

January 7.

26 *Obstetrical Nursing. A. Worcester.
27 *Some Questions Relative to Extrauterine Pregnancy, with Especial Reference to Tubal Abortion. Malcolm Storer.
28 *Typhoid Fever in Children. (Concluded.) Adolf Baginsky.
29 The Finsen Light Cure. H. John Stewart.

26. **Obstetric Nursing.**—Worcester advocates the trained obstetric nurse with an education that is required for the skilled midwife, though it is not expected that she will act as such. He thinks the more training the nurse has the less likely she will be to assume responsibility of obstetric cases. The obstetric nurse should be expected to exercise precautionary surveillance during pregnancy, to manage the first stage of labor, to recognize any abnormal occurrence and to be able to conduct a normal labor, to apply appropriate preliminary treatment in emergencies, and, in confinement, to care for both mother and baby intelligently. A hospital training alone will not fit the nurse for home obstetric work. She has had no experience with anxious husbands, terrified children and cranky servants. The modern hospital nurse often distorts and magnifies the normal condition into an unnatural and extraordinary experience.

27. **Extrauterine Pregnancy.**—The typical classical symptoms of extrauterine pregnancy are not usually present, according to Storer, and he gives illustrations of this fact. He places no special importance on symptoms of anemia, expulsion of decidual tissue and amenorrhea, which may all occur without it. In fact, the condition itself may be symptomless. Of course, the further advanced the condition the easier the diagnosis becomes. The symptoms he considers of chief importance are pain and anomalous escape of blood from the uterus. The pain is different from that of ordinary menstruation, short-lived, often stabbing, not colicky or anything like as severe as that due to rupture of the tube. It may be accompanied with nausea without vomiting. There is more or less protracted metrorrhagia, as a rule. Patients are apt to pay little attention to this pain, thinking it due to ordinary miscarriage and so on, and do not come under observation until some weeks later, and then on account of the pelvic peritonitis that results. In his experience ectopic pregnancy is not so apt to occur exclusively in multiparæ after a protracted secondary sterility. In 41 per cent. of his cases the patients were primiparæ. As regards treatment he asks five questions: 1. Whether a case seen immediately after rupture—in collapse and acute and profound anemia—should be immediately operated on? He favors immediate operation. 2. With a diagnosis of probable unruptured extrauterine pregnancy is it better to operate at once or wait until the diagnosis is certain? He thinks a reasonable probability implies operation. Certainty generally comes only with rupture. 3. Given a tubal abortion a month or two before the patient is seen, is it better to operate, supposing a mass can be felt, or allow nature to take care of it? He thinks nature will usually take care of it after a longer or shorter period of pelvic peritonitis with pain if nothing worse, but it is more surgical and certain to clear out the pelvis in such a way as to remove the old clots, break up adhesions, patch up the tubes, etc. 4. Whether it is better to operate from above or below? He thinks that undoubtedly surgeons of greatest experience in vaginal celiotomy may prefer that method, but he has never been one of them, and is not likely to become so. As regards the fifth question, what to do with extrauterine pregnancy at full term, he has had no experience. The decision as to how to treat the placenta is about as difficult a one as the surgeon has to make. Of course, if the main blood supply can be cut off, it simplifies matters, but even then it is by no means easy, and those who have removed the placenta in cases where the child is alive describe it as a nightmare. Another point he makes is in regard to the after-history. He thinks extrauterine pregnancy may readily be followed by a

normal one, though the possibility of a second abnormal pregnancy must be borne in mind. In conclusion he says he has left the question of diagnosis in a rather unsatisfactory condition, but can not help it. In many cases a positive diagnosis is out of the question. The let-alone-and-wait plan will never work. If you do not find an extrauterine pregnancy there will probably be some other trouble that will be bettered by operation.

28. **Typhoid Fever in Children.**—Baginsky's paper is concluded in this issue, describing the symptoms, abnormal forms, complications, diagnosis, prognosis and treatment. The respiratory organs are always more or less involved. The nervous symptoms may be severe, though usually not so pronounced as in adults. Digestive abnormalities are prominent. The urine is scanty and of high specific gravity. The roseola is rarely lacking. The shortest forms of typhoid often occur in children and are characterized by slight gastric disturbance, somewhat typical typhoid tongue, moderate fever with evening exacerbations and positive urinary and blood reactions, but the most significant thing is the occurrence of other cases at the same time. Children are more predisposed to relapses. Complications have been recently shown to be generally due to the typhoid bacillus, especially respiratory complications, which are perhaps the most frequent. The diagnosis is easy as the case progresses, though the difference between typhoid and miliary tuberculosis is often difficult. The prognosis is usually favorable, though affected seriously by pneumonia and parotitis or other infectious diseases. As regards treatment, he remarks that children with typhoid can not stand very cold baths, and the permanent lukewarm bath after the Riess method is principally to be recommended. The child is laid on a sheet which is spread out in a tub beneath the surface of the water and remains there for hours or days, according to the height of the fever. Children bear the cold pack well, and it may be well substituted for the cold bath. If possible, limit the antipyretic treatment to external methods, but if quinin is used it should be given in pretty good-sized doses. Salicylate of soda, phenacetin, etc., may be very cautiously used, but these remedies depress the heart's action and may become dangerous. Proper nursing is important. He does not restrict the feeding to milk, but all solid food is forbidden. Bouillon, wine, yolk of eggs with water, milk, somatose, and cornstarch preparations are among the foods that may be given. Diarrhea is best treated with bismuth or similar drugs, and intestinal hemorrhage with cold applications externally with cold nourishment and liq. ferri sesquichlorid (3 to 5 per cent.) or gelatin solution. The respiratory organs need especial attention, and in case of otitis media it is not wise to delay long before resorting to paracentesis of the tympanum. Hypnotics may be required and chloral hydrate is best. The bromids have little effect. If there is pus in the urine, urotropin is good, giving 15 to 24 grains per day to render the urine aseptic. Complications such as periostitis, decubitus, etc., must be treated on general surgical principles. During convalescence it is particularly important to watch carefully the action of the digestive organs. Great care must be used in passing from the liquid to a solid diet and particularly to a meat diet. It is not safe to give meat for at least a week after the temperature is normal.

Cincinnati Lancet-Clinic.

January 9.

30 *A Few Considerations on the Etiology and Pathology of Cutaneous Cancer. (To be continued.) A. Ravogli.
31 Diphtheria. E. W. Mitchell.
32 Gynecology in Lawson Tait's Old Home. Magnus A. Tate.

30. **Cancer.**—Ravogli does not consider skin diseases like eczema, psoriasis, lupus, etc., as pre-cancerous states. If they have any relation to the cancer it is only because they are concerned in the production of abrasions and diminish the vitality of the tissues, thus favoring the admission and development of the germs. The one form of pre-cancerous condition which he mentions particularly is the so-called pre-cancerous keratosis, which must be considered as the earliest superficial demonstration of the growth. He favors, as seen from the above, the parasitic theory, which he thinks is the only one supported by facts, and he can not believe that the pre-existing tissues can take on malignancy alone. The production of cancer can not, he says, occur solely from the mistaken place of a few epidermic cells. There must be some other reason. Another point in favor of the parasitic theory is the innoculability of cancer, which he thinks has been demonstrated. (The article is to be continued.)

St. Louis Medical Review.

January 2.

33 *The Acquisition of Tuberculosis in Infancy. E. W. Saunders.

January 9.

34 *Serum Therapy in the Treatment of Tuberculosis. Joseph B. Hardy.

33. **Tuberculosis.**—Saunders discusses the infection of tuberculosis, especially from cattle, admitting the possibility at least of skin infection, and rather favoring the opinion that alimentary infection is one of the most important methods of introduction of the germs in infancy. It seems, he says, that established facts as well as possibilities should compel admission that the bovine bacillus is virulent to man, and also a modified assent to Behring's statement. That alimentary infection in childhood is a prolific source of later manifestations of tuberculosis, especially in the bones, Saunders thoroughly believes. As regards the question whether bovine tuberculosis is less or more malignant in its course than infection from the human bacillus when introduced into the system, he thinks there is no evidence available to satisfactorily answer it. He has had one or two cases where he has suspected the communication of tuberculosis from one individual to another, but in these cases there was also the possibility of alimentary infection. He thinks the practical lessons are to pasteurize all milk given in the first quarter of infant life, when the permeability of the mucous membrane is so great. After that we should use a mixed diet, but raw or underdone beef and, above all things, smoked sausage should be prohibited to children.

34. **Tuberculosis.**—Hardy advocates the use of anti-tubercle serum. It is of greater value in early life than past the age of 30, and in acquired tuberculosis than that with hereditary predisposition. After the lung tissue has broken down and cavities formed it seems to do little good. No one need regard it as a curative agent like diphtheria antitoxin. He thinks the unfavorable impression of the profession about it is due to its improper use and the fact that it has been employed only as a last resort. In addition to the hypodermic treatment he uses, of course, other medicines where indicated.

Medical Age, Detroit.

December 25.

35 *Personal Experiences in Angina Pectoris. M. B. Smith.
36 Preliminary Report of a Case of Morbus Addisonii. N. E. Aronstam.
37 *Traumatic Neuroses. Frank A. Ely.

35. **Angina Pectoris.**—Smith reports his own case and the success he has had with a carefully regulated life and the avoidance of irritation. He has found no drug or treatment that seems to do him any good, but a careful avoidance of strain and exertion, of people that irritate and annoy him, and of temper explosions, etc., has made life endurable. He has had no attack for a number of years.

37. **Traumatic Neuroses.**—The importance of these conditions and their connection with organic lesions are noted by Ely, who emphasizes the following points:

1. Nervous symptoms similar to those met with in traumatic hysteroneurasthenia may be noted as the result of sudden and intense mental strain, unassociated with traumatism. 2. Clinical experience and a few isolated postmortem findings indicate that microscopic lesions of the brain and cord may result from traumatism without external evidence of violence. 3. Although we know these minute lesions are often present, our knowledge of their effect is as yet insufficient to enable us to differentiate between cases in which they do or do not exist, and their possible presence does not necessarily influence our prognosis. 4. Hysteria must be looked on as a true disease, which may be brought on by traumatism, and which may bring more trouble into a home than a broken limb or a sprained back.

University of Pennsylvania Medical Bulletin, Philadelphia.

December.

38 *Two Years' Experience in Gastroptosis. J. Dutton Steele and Albert P. Francine.
39 *A Case of Solitary Tubercle of the Pons. Remarks on the Pathway for Sensations of Taste from the Anterior Portion of the Tongue. Charles S. Potts. With Pathological Report and Remarks on Palsy of Associated Ocular Movements. William G. Spiller.

40 Rupture of the Quadriceps Extensor Tendon, with Report of a Case. Henry Norris.
41 Tuberculosis of the Parotid and the Possibility of Infection through the Tonsils. George B. Wood.
42 Treatment of Fractures of the Radius Between the Insertions of the Pronator Muscles. J. Rex Hobensack.

38. **Gastroptosis.**—From an observation of over 100 cases of gastroptosis, Steele and Francine conclude that in gastroptosis certain cases are relieved so promptly by external mechanical support, without other treatment beyond dietetic, that the downward displacement of the pylorus must be regarded as the primary or at least the principal factor in the causation of the symptom-complex. In their series the cases of this character showed a moderate diminution of HCl, were free from organic disease, and had no signs of dilatation or impaired motility. The symptoms were gastric fermentation, frontal headache, with sensation of dragging and lack of support in the abdomen. Gastroptosis may exist absolutely without symptoms. This is shown by the findings in the routine examination of other morbid states. Such patients were not benefited by external support. Gastroptosis may also form a part of the symptom-complex of other morbid states, such as gastric neuroses from nerve exhaustion due to overwork, gastric motor insufficiency, dilatation and passive gastric congestion from weakness of the cardiac muscle. Here the downward displacement of the pylorus is an important complication which is shown by the relief and comfort derived from mechanical support. That it is a complication, however, is shown by the fact that no considerable relief is obtained without treatment directed to the primary condition. The value of external mechanical support as a means of treatment is shown by the fact that all primary and uncomplicated cases recover completely under its use. Effectual mechanical support applied over long periods does not permanently restore the stomach to its normal position, as shown by examination in 18 cases, but the support of the stomach seems to produce some change, for it enables the organ to successfully perform its function in spite of a certain degree of displacement. These changes are probably compensatory. The larger part of the paper is devoted to a report of cases.

39. **Tubercle of the Pons.**—Potts and Spiller's case was examined after suicide. The symptoms indicated a lesion of the left side of the pons. The presence of paralysis of the lateral conjugate movement of the eyeballs toward the left made almost certain the diagnosis of a growth implicating the left half of the tegmentum of the pons. The diagnosis was confirmed by the necropsy. Spiller emphasizes the importance of this paralysis of the lateral associated movement of the eyeball in the clinical diagnosis as a sign indicating intrapontile tumor. He would hesitate to recommend operation for the removal of a pontile tumor with this form of ocular paralysis. Its absence, however, is no proof that the pons is not invaded, but merely that the posterior longitudinal fasciculus is intact.

Journal of Medical Research, Boston.

December.

43 *Observations on the Morphology of Bacillus Tuberculosis from Human and Bovine Sources. S. B. Wolbach and Harold C. Ernst.
44 A Hitherto Undescribed Fibrillar Substance Produced by Connective-tissue Cells. F. B. Mallory.
45 *On the Appearance and Significance of Certain Granules in the Erythrocytes of Man. Victor C. Vaughan, Jr.
46 *A Study of Volume Index. Observations on the Volume of Erythrocytes in Various Disease Conditions. Joseph A. Capps.
47 Influence of Certain Bacteria on Coagulation of Blood. Leo Loeb.
48 Bacterium Pyogenes Sanguinarium. N. L. Berry, Jr., and Harold C. Ernst.
49 Observations, Especially with the Roentgen Rays, on the Artificially Deformed Foot of the Chinese Lady of Rank, in Relation to the Functional Pathogenesis of Deformity. Percy Brown.
50 Methods of Treatment of Congenital Dislocation of the Hip. E. H. Bradford.
51 Resistance of the Muscle in Reducing a Congenitally Dislocated Hip. E. H. Bradford and L. T. Wilson.
52 Mechanism for Reducing Congenitally Dislocated Hips. Ralph W. Bartlett.
53 On the Output of Ammonia in the Course of Different Forms of Insanity. P. A. Levene and L. B. Stookey.
54 The Passage of Tubercle Bacilli Through the Normal Intestinal Wall. (A Preliminary Report.) Mazyck P. Ravenel.
55 *The Occurrence of the Colon Bacillus on the Hands. C. E. A. Winslow.
56 Protozoa in a Case of Tropical Ulcer ("Delhi Sore"). James H. Wright.

43. **Bacillus Tuberculosis.**—Wolbach and Ernst have studied the tubercle bacillus in various cultures, and remark on the variations of the form and staining reaction, greatest in the rapidly-growing cultures. They agree with Coppen-Jones that favorable media and free access to oxygen tend to branched and filiform forms. The only interpretation of the great diversity of form assumed under the most favorable conditions is that the bacillus is truly pleomorphic, and should be classed among the higher bacteria.

45. **Granules in the Red Blood Cells.**—Vaughan describes certain granular bodies observed in red cells in certain conditions which he considers can not be artefacts, as they do not increase on allowing the specimen to stand. They can not be due to alteration of the hemoglobin content of the cell because where they are most abundant the hemoglobin is normal in appearance and distribution. Experimental evidence tends to the probability that they are remnants of a nucleus that has disappeared throught a process of karyorhexis or karyolysis. Their importance depends on whether they are present in a large proportion of cells. When they are present in a larger proportion than normal in the circulating blood, the same value can be attached to them under certain limits as is given to the finding of nucleated red blood corpuscles. An increase of the granular cells to 9 or 10 per cent. of the total number would indicate a marked departure from the normal, and would probably not occur in the absence of nucleated forms that later might reward the search. In secondary anemia, however, the high percentage of granular cells would be looked on as a favorable sign indicating a state of blood regeneration, whereas in pernicious anemia its prognostic value would be practically *nil*. The rise of blood count and the hemoglobin index would be more important. These granules are easy of recognition by the method described, that is, the use of Unna's polychrome methylene blue as prepared by Grübler, which shows not only these but nucleated cells. The facts would seem to warrant the notion that their determination must be of some value in the clinical study of the blood.

46. **Volume Index.**—This expression designates the size of the erythrocytes in comparison with the normal. Capps found that the cell volume is invariably increased in pernicious anemia, more so usually than the Hb content of the cell. This heightened volume index is a more constant and trustworthy sign of pernicious anemia than the increased color index. Moderate cases of secondary anemia show only a slight loss of cell volume, but if of high grade the cell becomes small and atrophic. In a small group of secondary anemias the low color and volume indices of chlorosis appear, but later the blood turns macrocytic with high volume and color values, a type which resembles that of pernicious anemia. In a large proportion of chlorotics the cell volume suffers as well as the Hb, though to a less extent. The volume is of great significance in the prognosis. Cases with a low volume index respond slowly to treatment, and the cell volume has as much to do with the improvement as the Hb content. In all anemias the color loss is greater and takes place more rapidly than the loss in volume. In recovery the volume is restored before the color. The Hb content of normal erythrocytes represents the point of saturation of protoplasm. When the color index rises above 1 we may assume a corresponding increase has taken place in the cell volume, excepting in jaundice, where the color test is unreliable. Supersaturation of the cell protoplasm with Hb probably does not occur, but the cell may lose its Hb without necessarily losing its volume. The volume seems to be chiefly altered by the influences affecting cell growth or degeneration. The large erythrocytes of pernicious anemia are probably young cells. Small cells may result from malnutrition of the bone marrow, as in chlorosis, or from actual degeneration, as in sepsis. The cell volume suffers very little change from osmotic influences, according to Capps' observations. Dropsy, cyanosis, hydremia following hemorrhage and jaundice (with some exceptions) do not materially alter the form volume of the cells. He has

never noticed the "acute swellings" described in dropsy, hemorrhage, jaundice and chlorosis. The volume of the individual erythrocyte is best obtained by using the centrifuge in connection with the hemacytometer.

55. **The Colon Bacillus on the Hands.**—In 111 persons examined by Winslow the colon bacillus was found on the hands in 10. In one experiment, children whose hands were especially dirty were taken, but in all the other cases the subjects were chosen at random. Excluding the selected children, 4 positive results were obtained from the hands of 48 children. Of 35 technologic students 2 gave positive results, of 16 servants and janitors 1 gave a positive result. It appears, then, that the colon bacillus was normally present on the hands of between 5 and 10 per cent. of the persons examined. This makes it easy to see how readily the typhoid bacillus may be transmitted by the hands of those affected with the disease or their attendants.

Buffalo Medical Journal.

January.

57 *Typhoid Gangrene of the Lower Extremities. One Hundred and Thirty-four Cases—Spontaneous and Surgical Amputations—A Historical Résumé. B. Merrill Ricketts.
58 *Influence of the Leucocyte Count in the Decision for or Against Immediate Operation. E. S. Van Duyn.
59 Keratoconus. G. Griffin Lewis.
60 The Pathology of Asthma with Special Reference to Its Vicious Circle. G. N. Jack.
61 *A Plea for a More Conservative Treatment of Appendicitis. F. W. Higgins.

57. **Typhoid Gangrene of the Limbs.**—Ricketts gives the statistics of 134 cases reported, together with one of his own personal observation. He insists on early amputation, high enough to be above all the gangrenous tissue. Spontaneous amputation, as a rule, should not be encouraged except, perhaps, in a few cases in the aged, where both extremities are involved in dry gangrene, slow in development, and the debility is such that surgical anesthesia is contraindicated. If the line of demarcation is sharp and amputation can be done rapidly above the knee or ankle, without surgical anesthesia, spontaneous amputation should not be considered. Of the 134 reported cases, 100 were male and 34 female. There were 128 surgical and 3 spontaneous amputations, 3 not stated; 15 of both limbs, 41 of the right leg, 20 of the left leg, 15 of both feet, 18 of the right foot, 16 of the left foot, 5 toes, one hand and toes, 3 middle thigh, 3 of the upper thigh, 2 of the lower thigh, 3 both thighs, 30 dry and 2 moist gangrene, 112 not stated. There were 6 recoveries with operation, 1 with no operation; 34 deaths without operation; 22 deaths with operation and 12 unknown.

58. **The Leucocyte Count.**—Van Duyn has tabulated 50 consecutive cases, which he analyzes in his paper, reporting 2 in detail. He is inclined to consider a leucocyte count over 10,000 or 15,000 as high, below that as normal. If it is above 10,000 to 15,000 he would always advise immediate operation, however mild the other symptoms may be, especially if the leucocytosis seems to be increasing, but if other symptoms pointed strongly to the necessity of intervention, a low leucocyte count should not deter from operation. While it is of great assistance, the knowledge obtained from other signs and symptoms present loses none of its weight, and all should be carefully considered.

61. **Appendicitis.**—Higgins would treat most cases of appendicitis as medical, carefully watching them and operating when indications demand after careful, unprejudiced consultation. The interval operation should be recommended after a second attack.

American Journal of the Medical Sciences, Philadelphia.

December.

62 *The Anatomical Basis of the Argyll-Robertson Pupil. Henry M. Thomas.
63 *A Contribution to the Surgery of Cerebral Tumors. George Woolsey.
64 Multiple Sclerosis with Dementia: A Contribution to the Combination Form of Multiple Sclerosis and Dementia Paralytica. J. Ramsay Hunt.
65 *Tumors of the Sigmoid Flexure. C. A. Ewald.
66 *Concerning the Nature of Certain Cases of Chronic Polyarthritis. David L. Edsall and Ralph S. Lavenson.
67 *Clinical Lecture on the Symptomatology and Treatment of Trifacial Neuralgia. Charles H. Frazier.
68 A Death During General Anesthesia with Ethyl Chlorid. Francis O. Allen, Jr.
69 A Case of Infection of the Epididymis and Tunica Vaginalis by the Friedländer Bacillus. Eugene P. Bernstein.
70 *A Case of Epiphenomena of Diphtheria Antitoxin. James P. Marsh.
71 A Case of Probable Primary Carcinoma of the Lung. Arthur Bremken.
72 *The Movements of Superior Intercostal Muscles in Hemiplegics. L. Pierce Clark.
73 *A Note on the Foot of the American Negro. Albert H. Freiberg and J. Henry Schroeder.
74 *Studies on the Antagonistic Action of Drugs. H. D. Haskins.
75 *Blood Changes in Dementia Paralytica. A. R. Diefendorf.

62. **The Argyll-Robertson Pupil.**—Thomas discusses the physiology of innervation of the pupil and pupillary reaction, but comes to no positive conclusion in regard to the mechanism, as our knowledge of the sympathetic nervous system is too inexact. He is inclined to favor Langley's idea that the ciliary ganglia can hardly act as a reflex light center in these cases, as maintained by Marina. It would appear that he still thinks that possibly the evidence is in favor of a more central mechanism.

63. **Cerebral Tumors.**—From a study of 101 cases reported in the last five years, Woolsey concludes that more recent experience indicates that the sphere of operation for cerebral tumors has been extended to those parts of the cortex where tumors are accessible and localizable, that is, to the prefrontal, the parietal and occipital regions, in addition to the motor area. That the prognosis, both immediate and remote, is as good or even better than any operation for malignant growths in some other localities. It has improved with the improvements in localization and operative technic, and with the limitation of the radical operation to cases accurately localized. Palliative operation is indicated to relieve the symptoms where localization can not be accurately made or the tumor be removed, but exploratory operations are contraindicated. Practically all circumscribed growths are amenable to operation. The osteoplastic method should be employed and the most rapid and perfect technic, with complete asepsis.

65. **Tumors of the Sigmoid Flexure.**—Ewald here notices the tumor due to fecal accumulations and the malignant growths which may be confined to the sigmoid or extend upward from the rectum. In the latter case they should always be detected, but are sometimes overlooked. In many cases obstruction suddenly occurs with its characteristic symptoms. Often the physician will be led to believe he has a strangulation, volvulus or intussusception, when operation reveals a tumor. The neoplasm may grow into the lumen of the intestine, causing no thickening and being hardly possible to palpate. Such a growth may lead to no symptoms until suddenly obstinate constipation occurs, due to narrowing of the lumen, which becomes blocked. Such attacks may frequently recur until cathartics are of no use. The general condition is not affected as much as in other cases of acute obstruction. He mentions a case in which he diagnosed carcinoma of the sigmoid on account of there having been four attacks of constipation with pain, moderate distension of the abdomen and marked distension in the left iliac fossa, moderate pain in this region recurring at regular intervals, radiating outward from the sigmoid, the rectum negative, and the impossibility of introducing water or air in large quantities into the intestines, in spite of the unchanged general condition. The urine contained indican. The operation showed a circular carcinoma with a corkscrew canal large enough to pass a knitting needle. All these cases, however, he says, when they have symptoms, are comparatively easy to recognize, but there is a class of neurospastic pseudotumors which occur sometimes in hysteria, or as a pure neurosis, or in connection with other nervous diseases. They may prove very difficult to diagnose, especially when the characteristics of the stools and general condition are similar to that of carcinoma. It is also possible for swelling of the colon to occur in the left iliac fossa with a tumor in another portion of the intestine. He gives illustrative cases. There are, of course, other tumors in this region, such as those originating from the intestine and appendages, from local peritonitis, etc., but he does not

discuss these, concluding with remarks on auto-intestinal intoxication as the result of constipation. The symptoms may be acute in onset, very severe in appearance, and accompanied with more or less diminished sensorium of the patient. There may be a paralysis of the extremities, complete absence of the patellar reflexes, involuntary micturition and defecation, with every sign of a severe central brain disease, but differing from it by the bilateral paralysis; from meningitis by absence of the neck rigidity and pupillary symptoms; from disease of the spinal cord by the occasional occurrence of coma. The use of irrigations of lukewarm oil or hot water brings away masses, and, together with lavage of the stomach, the whole picture becomes suddenly changed. He thinks such attacks undoubtedly arise as a result of absorption of toxic agents produced by putrefaction in the intestinal tract. In two cases he has found the aromatic sulphates markedly increased.

66. **Chronic Polyarthritis.**—Edsall and Lavenson have used the tuberculin test in 18 cases of chronic polyarthritis and find positive reactions in 7 cases, with 3 dubious ones. They think that these furnish strong presumptive evidence in favor of Poncet's view that many cases of polyarthritis are of tubercular origin.

67. **Trifacial Neuralgia.**—Frazier concludes with the following:

1. In all incipient cases remove the predisposing cause and administer strychnin hypodermically in heroic doses under proper precautions, and with such adjuvants as have been suggested. 2. In cases that do not respond to this mode of treatment, where the pain is referred to but one branch, recommend the peripheral operation, even though the operation may have to be repeated. It will afford relief, at least temporarily, in every case, and in some cases permanently. 3. When the peripheral operation has failed to afford but temporary relief, even though it may have been properly executed and repeatedly performed, or when from the onset the pain is referred to two or more branches, recourse should be had at once to an intracranial operation: either division of the sensory root or, in certain selected cases, division of the second and third divisions, with interposition of a foreign substance to prevent reunion.

70. **Diphtheria Antitoxin.**—Marsh reports a case to show that injection of antitoxin is once in a while followed by alarming symptoms. The patient became almost cyanosed and semicomatose, had subsequently a numb feeling, pain in the epigastric region and vomiting, and immediately thereafter a severe stinging, itching rash came out all over the body. It took about thirty-six hours for this urticaria to disappear. He thinks a large dose would have been fatal in this case. This, he thinks, was due to an idiosyncrasy of the patient to anything coming from a horse, which was notable in her history otherwise. She was always seized with unaccountable sneezing attacks when driving behind a horse.

72. **The Respiratory Symptom in Hemiplegia.**—Clark has examined 161 cases of hemiplegia to make certain the constancy of the respiratory symptoms noted by Jackson. He observed that automatic overaction was greater on the paralyzed side, and that the reverse was the case in volitional respiration, and found that this phenomenon was constant. The difference in the cases is only one of degree. He discusses the explanation of the symptom on the basis of Spencer's work as to the respiratory centers, and emphasizes the necessity for more information in regard to the location of these centers by degeneration experiments.

73. **The Foot of the Negro.**—Freiberg and Schroeder have examined a number of colored persons' feet and find that flattening of the arch of the foot, from the data obtained, is more frequent in the negro than in the white. Hallux valgus is also more frequent, but, nevertheless, well-arched feet appear sufficiently frequently to establish them as normal. In the negro child the normal foot preponderates. They therefore infer that the flat foot of the adult American negro is an acquirement due to the deforming effect of footwear of improper construction.

74. **The Antagonistic Action of Drugs.**—Haskins, at Sollman's suggestion, has studied the question whether a drug which excites a given structure can remove the effects of another drug which depresses it. Alcohol and strychnin were first suggested as the subject of investigation, but were found unsuitable, as alcohol does not produce the effects credited to it, and strychnin does not prevent alcoholic excitement. Haskins therefore studied the effect of the simultaneous action of stimulation and depressants on yeast cultures, using various degrees of heat as a stimulant and contrasting it with the depressing action of strychnin. The results show that the antagonism is not as simple a phenomenon as would be expected if the stimulant action of heat neutralized the depressant action of strychnia. They are more in agreement with the complicated condition which would occur with superimposition of stimulation and depression. It must be granted, however, that stimulation by heat may be of a different nature from stimulation by drugs. There may be various types of physiologic antagonism among drugs. These matters can not be settled until a large number of antagonisms have been studied. The experiments with alcohol were mainly tried on cats and are given in detail. The conclusions are:

1. Strychnin does not seem to affect the pulse when given simultaneously with alcohol. 2. In some cases strychnin seems to counteract in part the depressing effect of acute alcoholic poisoning on the respiration, and thus prolong life. The one apparent exception is doubtless explained by the poor physical condition of the cat receiving strychnin, and by the small dose. 3. Strychnin does not seem to interfere materially with the narcosis from acute poisoning with alcohol, but, apparently, does delay the onset of paralytic symptoms. 4. In subacute alcoholic poisoning strychnin seems to lessen the narcosis and paresis in the earliest stages, but in the later stages to increase the depression. However, a general conclusion is hardly justified, since only one control experiment was made. 5. Although in no case was the strychnin competent to completely remove the effects of the large doses of alcohol which were employed, yet it may be considered probable that appropriate doses of strychnin (fairly strong therapeutic doses) would prove useful in the treatment of poisoning from even lethal doses of alcohol. 6. No action on the nerve cells by either alcohol or strychnin was demonstrable histologically. 7. Many drugs depress the activity of yeast cells, but no reliable stimulant was found: therefore, the antagonism of drugs in their action on these cells could not be studied. 8. Heat was found to be a reliable stimulant up to 45 C., but strychnin as an antidote to heat did not give uniform results at the successive temperatures, so that the antagonism is not a simple one.

75. **Blood Changes in Paresis.**—Diefendorf has studied the blood changes occurring in paresis in the 11 cases here reported. He concludes that the disorder is accompanied with moderate progressive anemia, involving especially the hemoglobin, and becoming more marked as the disease progresses. The terminal stage of the disease is accompanied by a rise in the hemoglobin, erythrocytes, and a leucocytosis. Paralytic attacks are accompanied by a leucocytosis. Throughout the disease process there is a pathologic increase of polymorphonuclear leucocytes which reaches its height during the terminal state. States of paretic excitement, stupor or quiescence, not terminal, have no characteristic blood changes. The presence of leucocytosis accompanying the terminal state and paralytic attacks is significant evidence in favor of the toxic origin of the disease.

The Cleveland Medical Journal.

December.

76 *Wounds from Blank Cartridges. Observation on 16 Cases Cared for at Lakeside Hospital Together with a Bacteriological Report. Dudley P. Allen and A. L. Ludlow.
77 Suggestion and Therapeutics. R. H. Grube.
78 The Care and Treatment of Crippled and Deformed Children. Walter G. Stern.
79 Sanitary Legislation Affecting Schools. L. K. Barker.

76.—See abstract in THE JOURNAL, Dec. 5, 1903, p. 1429.

Illinois Medical Journal, Springfield.

January.

80 *Hernia of the Ovary, Appendix and Diverticulum with Abscess. Carl E. Black.
81 *The Indications for the Use of the Tampon in the Treatment of Postpartum Hemorrhage. C. S. Bacon.
82 *Utility of Intestinal Antiseptics in Typhoid Fever. N. S. Davis, Jr.
83 Some Factors in the Spread of Typhoid Fever. Frank H. Russell.
84 *Euphthalmin as a Mydriatic for the General Practitioner. Albert B. Hale.

80. **Hernia of the Ovary.**—The case described by Black was not in its clinical symptoms as serious as the actual conditions showed. The patient was induced to submit to operation only after much urging. The sac was examined and found to contain a small mass which was undoubtedly the ovary, and a considerable cavity associated with it containing pus. Meckel's diverticulum projected into the cavity, and the intestine was in such a bad condition from contact with the pus cavity that several inches of it had to be resected

and united by end-to-end anastomosis with the Murphy button. A still further examination of the cavity revealed the appendix, which was gangrenous and ruptured. The ovarian hernia, Black thinks, was, perhaps, congenital; the presence of the diverticulum was only an incident. The disorganization of the diverticulum and intestinal wall was caused by the contact with the abscess caused by the ruptured appendix.

81. **The Tampon in Postpartum Hemorrhage.**—Bacon concludes that the tampon can be used in postpartum hemorrhages as a carrier of stypties to cause coagulation of blood in cases of inherited or acquired hemophilia, to control postpartum hemorrhage in placenta previa, and also to control the bleeding from cervical lacerations where surgical interference is impossible.

82. **Typhoid Fever.**—Davis has used acetozone in 59 cases, giving it in water in the usual doses. Among the 59 there were 2 who died at the very beginning of treatment; excluding them, the percentage of fatalities is 10. Twenty-one patients during the summer months were treated in the same way in every respect, but without the acetozone, and 2 of these who died might be excluded because of death occurring almost immediately after entering the hospital. Without these, the percentage of mortality would be 19. Among those who used acetozone he finds that those admitted to the hospital in the first week of their illness averaged 21.25 days of the fever, ranging from 9 to 33 days. Those admitted in the second week averaged 31.5 days of the fever, ranging from 10 to 83 days; in the third week 7.7 days of fever ranging from 20 to 58 days, and those appearing after the third week averaged 44.5 days of fever, ranging from 32 to 71 days. Among a small number that did not get acetozone those admitted in the first week averaged 28.6 days with a range of from 19 to 42; those in the second week 26 days, ranging from 13 to 39; those in the third week 41.5 days, ranging from 33 to 50, and those appearing after the third week averaged 54 days of fever, and ranged from 28 to 81 days. The number is small, but the statistics emphasize the value of early treatment and show apparently that the use of acetozone apparently shortened the disease. It did not seem to produce visible effects. Twenty grains of the acetozone were dissolved in two quarts of water, and a glass of the solution administered every two or three hours and equal parts of medicated water and milk were in some cases given more frequently. The fluid seems to promote excretion by the kidneys.

84. **Euphthalmin.**—Hale finds that euphthalmin is a powerful and effective drug, and the best pure mydriatic we have for diagnostic purposes.

New Orleans Medical and Surgical Journal.

January.

85 The Teeth as a Factor in Digestive Diseases and Disorders. J. A. Storck.
86 *The Prostate in the Cure of Gonorrhea. A. Nelken.
87 Ringworm of the Body Considered in a General Way. J. N. Roussell.

86. **Gonorrhea.**—Nelken insists on the importance of the prostate in the condition of chronic gonorrhea and the value of prostatic massage in the treatment. Other pathologic factors can not be neglected, and, of course, if structural changes in the gland have occurred, or there is complicating disease in the viscera, probably of long-standing, then only the most persevering treatment will succeed. He reports cases to prove his assumption that careful systematic massage of the prostate is of the greatest benefit in many cases of gonorrhea.

Louisville Monthly Journal of Medicine and Surgery.

January.

88 Rectal Surgery in the General Practice of Medicine. D. O. Hancock.
89 Diphtheria. J. D. Kiser.
90 Practical Points in Dietetics. Sidney J. Meyers.
91 Intra-capsular (?) Fracture of Femur. John B. Richardson.

Journal of Medicine and Science, Portland, Me.

December.

92 Intubation for Laryngeal Stenosis. J. B. O'Neill.
93 Deformities of the Foot. Edville G. Abbott.
94 Ophthalmia Neonatorum. L. Webster Fox.
95 Diseases of the Stomach in Connection with the Eyes. Geo. F. Libby.

Physician and Surgeon, Detroit and Ann Arbor.

October.

96 An American Medical Student. (James Jackson, Junior, 1810-1833.) Aldred Scott Warthin.
97 The Comparative Value of Some Drugs. William H. Baldwin.
98 The Treatment of External Operation-Wounds. Frank B. Walker.
99 The Treatment of Appendicitis. John T. Bird.

Mississippi Medical Record, Vicksburg.

January.

100 A Reminiscence. S. C. Gholson.
101 Country Surgery. J. J. Slack.

Southern California Practitioner, Los Angeles.

December.

102 The Care of the Child at Birth. Nannie C. Dunsmoor.
103 Concerning the Pathology and Treatment of Acute Anterior Poliomyelitis. Elbert Wing.
104 Care of the Pregnant and Parturient Woman. Chester L. Mager.
105 Eclampsia. Claire W. Murphy.
106 A System of Peripatetics. E. S. Goodhue.

International Journal of Surgery, New York.

January.

107 Circumcision. Bransford Lewis.
108 The Surgical Treatment of Infective Inflammatory Conditions. L. E. Stamm.
109 An Inquiry Into Some Methods of Treatment of Carcinoma and Kindred Affections. J. McFadden Gaston, Jr.
110 The Surgical Assistant. Operations on the Bladder and Urethra. (Continued.) Walter M. Brickner.

Toledo Medical and Surgical Reporter.

January.

111 Address of Welcome, Northwestern Ohio Medical Association. Julius H. Jacobson.
112 Response to Address of Welcome. Shelby Mumaugh.
113 Dermoid Cyst of the Ovary, with Report of Four Cases. Joseph F. Fox.
114 Gastric Displacements of, and Their Effect on the Abdominal and Thoracic Viscera. E. J. Greenfield.
115 Acute Infantile Enterocolitis. M. A. Darbyshire.
116 Modern Therapeutics. S. B. Hiner.
117 Anesthesia and Anesthetics. C. W. Moots.
118 Contused and Lacerated Wounds. J. A. Kimmell.
119 Diagnosis and Treatment of Modified Smallpox. L. F. Laudick.
120 Operation for Cataract After the Use of Local Osmotics. Joseph Sager.
121 A Plea for a Better Knowledge of Insanity Among General Practitioners. George R. Love.
122 The Clinical History of Three Typical Cases of Alcoholism. L. E. Shaffer.

Carolina Medical Journal, Charlotte.

December.

123 "Contagious Acne"—A Note on Pathology and Treatment. Woodbridge Hall Birchmore.
124 The Treatment of Corneal Ulcers. W. H. Wakefield.

St. Louis Courier of Medicine.

December.

125 School Hygiene of the Eye. J. W. Sherer.
126 Carbuncle and Other Affections Contracted in the Barber Shop. W. A. Hardaway.
127 The Significance of Cardiac Murmurs in Infancy and Childhood. W. J. Johnson.

Clinical Review, Chicago.

January.

128 Carcinoma of the Uterus, Some Considerations of Its Inoculability. Should Vaginal Hysterectomy for Carcinoma Be Abandoned? G. F. Shimonek.
129 The Uterine Curette as a Therapeutic and Diagnostic Agent. Louis J. Pritzker.
130 The Diagnosis and Treatment of Diseases of the Throat in Children. N. Filatov.

Canada Lancet, Toronto.

January.

131 Amyotrophic Lateral Sclerosis. Alexander McPhedran.
132 Medical Colleges and Their Clinics. John Hunter.
133 Clinical Notes from Royal Alexandra Hospital. Fergus. A. Groves.
134 Fresh Air vs. Disease. G. E. Dewitt.
135 Impetigo Circinata. Graham Chambers.
136 The Pathology of Tuberculous Arthritis—With Special Reference to the Knee. John Stewart.
137 The Treatment of Tubercular Arthritis—With Special Reference to the Knee-joint. N. E. McKay.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

January 2.

1 *Edema of the Lungs and Its Importance as a Mode of Death. Isambard Owen.

2 *Postural Albuminuria. William H. Broadbent.
3 Summary of Two Clinical Lectures on Empyema and Bronchiectasis. Alex. James.
4 Three Cases of Abscess of the Lung. D. J. Williams.
5 A Case of Purulent Pericarditis Associated with Empyema in a Child Aged Two and a Half Years. Death Nearly Four Months After a Double Operation. J. A. Coutts and R. P. Rowlands.
6 *Note on the Method of Demonstrating Tubercle Bacilli in the Urine. Edgar Trevithick.
7 Reaction with Perchlorid of Iron in the Urine of Grave Cases of Hepatic Cirrhosis. F. Parkes Weber.
8 *A Method for Anastomosing a Severed Vas Deferens. J. Lynn Thomas.
9 Pilewort Ointment and Suppository. James Sawyer.

1. **Edema of the Lungs.**—Owen describes the phenomenon and thinks that many cases of so-called heart failure in pneumonia are really due to antecedent commencing edema. A careful examination of the back of the chest in pneumonia is often neglected, and the importance of the condition so frequently found in autopsy is often overlooked. He thinks that when the countenance changes, the complexion becomes pale and dusky, the patient drowsy and apathetic, and the pulse begins to flag, one should not content oneself with the diagnosis of toxemia, or collapse, or cardiac failure, but should thoroughly examine for physical signs. The administration of an expectorant for the purpose of removing edematous fluid is a mistake, as such fluid can not be expelled by coughing. The principal thing is to examine thoroughly the right side of the heart and look for evidences of obstructive venous circulation. If the signs are profound, perform venesection promptly. Failing to do this, leeches, free water purgation, or pilocarpin, may be of value. The continued use of alcohol in this condition is useless and may be harmful. Atropin and ammonia are indicated theoretically. Strychnin has produced marked improvement when given hypodermically, and has become part of his routine treatment.

2. **Postural Albuminuria.**—Broadbent finds as an antecedent in cases of this condition a neurotic family history and cardiovascular instability or brain abscess. He has never seen any serious renal disease result; usually all the treatment required is simple food, fresh air and vigorous exercise. If these cases are treated for renal disease they will probably get worse.

6. **Tubercle Bacillus in the Urine.**—Trevithick has found the following methods eminently successful: The urine is allowed to stand in a conical glass and the lower portion is centrifuged. The supernatant fluid is then carefully decanted off and the centrifuge receiver is filled with distilled water and shaken. This is again centrifugalized and the process repeated. After the final centrifugalization the bacilli found in the films prepared from the sediment will be greatly in excess of those demonstrated in the same urine where this precaution of washing away the urinary salts is not practiced.

8. **The Vas Deferens in Anastomosis.**—Thomas operates by slitting up the urethral end of the severed vessel, a little higher on one side than on the other; thus forming two tails of equal size. The obliquely cut free end of the testicular portion of the vas was placed with its lumen in contact with that of the testicular portion and fixed by means of fine silk suture as closely applied as possible. The two tails of the distal end were then enveloped around the testicular portion in order to counteract the disruptive forces of the weight of the testicle. Afterward the layers of the fascia were wrapped around the anastomosed vas deferens and fixed by sutures. The invagination of the ends is impossible in this case on account of the smallness of the tube. The use of this method makes union more certain.

The Lancet, London.

December 26.

10 *The Diagnosis and Management of Doubtful Cases of Diphtheria. F. Foord Caiger.
11 How to Treat a Case of Insanity. Robert Jones.
12 *The Use of Pure Carbolic Acid in the Treatment of Smallpox. James T. Neech and J. F. Hodgson.
13 *Etiology of Yellow Fever. James B. Tombleson.

January 2.

14 *Deceptive Signs of Improvement Following on Septic Intoxication in Acute Appendicitis, Especially in Young People. William H. Bennett.
15 Hallucination. Conolly Norman.
16 On Hour-glass Stomach from a Personal Experience of 23 Operations. A. W. Mayo Robson.
17 *Ochronosis: The Pigmentation of Cartilages, Sclerotics and Skin in Alkaptonuria. William Osler.
18 Some Simple Expedients in Physical Therapeutics. W. Essex Wynter.
19 Spiral Formations in Relation to Walking, Swimming and Flying. J. Bell Pettigrew.
20 An Unusual Form of Family Paralysis. J. A. Ormerod.
21 A Case of Facial Paralysis Associated with Herpes Zoster. E. Hewat Fraser.
22 An Effectual Means of Dealing with the Conditions of Chronic Obstruction of the Large Bowel Resulting from the Adhesions which Develop in Consequence of Chronic Constipation. W. Arbuthnot Lane.
23 *The Action of Venoms of Different Species of Poisonous Snakes on the Nervous System. George Lamb and Walter K. Hunter.
24 Some Observations Regarding the Special Circumstances of Cases of Lead Poisoning Occurring Among Workers in White Lead Factories. Theodore A. W. Ogg.

10. **Diphtheria.**—Caiger discusses the difficulties of determining diphtheria by clinical appearances and also pseudo-diphtheria germs which may confuse the diagnosis. The ordinary bacteriologic test, therefore, is not absolutely reliable in all cases, but where the symptoms or anomalies are abundant it is valuable. In suspected cases he would isolate the patient, disinfect everything, examine the throat, nasal passages and all tissues, isolate or exclude all contact with persons with doubtful diphtheria bacilli in their throats, and search for every possible source of infection, doing everything that may possibly serve to lessen the infectivity of the patient and shorten the term of detention. The average period of diphtheria bacilli persisting in the throat was about twenty days. He thinks it may be longer in hospital wards. Sometimes they may be detected three months after the attack. The longest time on record, he says, was not quite a year. Adenoids seem often to be responsible for undue persistence of the germs, and great care should be exercised in assuring oneself that the germs are not present before operation is performed. Antitoxin should always be given without exception, and in case of infected contact with any signs of faucial, laryngeal or nasal inflammation.

12. **Smallpox.**—Neech and Hodgson have used local treatment with carbolic acid in 136 cases, with 5 deaths. Many of the cases were severe, 22 were confluent, 12 were semi-confluent, and some of the discrete cases were of the severer type. The symptoms were decidedly modified, the fever and odor diminished, and delirium was infrequent. The risk of aerial convection was, they think, very much decreased. There was an entire absence of complications, such as multiple abscess, etc.

13. **Yellow Fever.**—Tombleson refers to his former article, abstracted in THE JOURNAL of September 19, ¶12, p. 752. He gives a tabulated analysis of 25 cases and a record of finding of the bacillus, which he has described, in infected mosquitoes and their larvæ. He also fed mosquitoes on the blood of yellow fever cases, and found the bacilli in every stage of growth and sporification in them. He stained with carbotoluidin blue, prepared by adding to a 5 per cent. solution of carbolic acid enough saturated solution of toluidin blue in absolute alcohol to make the mixture a deep blue color. He stained with this for three hours and dried by heat, without any dehydration with alcohol, cleared it up with xylol, and mounted. This was, of course, in section preparations. In the blood slides no dehydration was required. One point in the treatment of yellow fever is mentioned. He uses large injections of warm water into the large bowel from the beginning of the third day of the disease to the end, two quarts twice daily, taking half an hour or more to the operation, and finds this method always beneficial in preventing secondary fever.

14. **Appendicitis.**—Bennett calls attention to deceptive symptoms, for example, in advancing sepsis and intoxication where the gangrenous appendix produces anesthesia with apparent improvement. This is particularly the case in young growing children even when the infective processes are very acute and the results destructive. The changes are followed so rapidly by necrosis and decomposition that the commencement of septic intoxication is begun before the patient realizes the

onset of the condition. In fact, before the ordinary symptoms develop the patient has become dull and listless from the rapid absorption of septic material. He refers to the stomachaches of boys as deserving of more attention than they receive, since they are sometimes the indication of appendiceal trouble. There is one sign that is almost pathognomonic of appendiceal involvement, that is, a feeling of discomfort about the right iliac region on stretching of the lower limbs, a condition which never follows mere stomachache. But no one sign can be relied on alone.

17. **Ochronosis.**—Osler reports two cases in alkaptonuria in which the condition was clinically recognizable by deep pigmentation of the cartilaginous tissue and sclerotics. In one it resembled an ebony-black discoloration of the skin, nose and cheeks. The relation of this discoloration to metabolic changes shown by the urine is especially noted, but all cases of ochronosis are not to be found in alkaptonuria.

23. **Cobra Venom.**—Lamb and Hunter report experiments with cobra venom and the administration of toxic substances which when injected subcutaneously produce symptoms of muscle paralysis due apparently to degenerative changes in the motor neurons. Doubtless, it has an effect on other parts of the body, but it seems to have a special action on the nervous system. A certain time seems to be required to cause these changes to develop.

Janus, Amsterdam.

Last indexed XLI, page 471.

25 (VIII, No. 7.) History of the Magnet Operation in Ophthalmology. F. M. Feldhaus (Heidelberg).—Geschichte der Magnet Operation in der Augenheilkunde.
26 Sydenham's Experience of Malaria. A. Davidson (Edinburgh).
27 (No. 8.) *Trypanosome Affections. A. Laveran and F. Mesnil.—Maladies à trypanosomes. Leur repartition à la surface du globe. (Commenced in No. 7.)
28 *Swedenborg's Conceptions of Anatomy and Physiology. M. Neuburger (Vienna).—Swedenborg's Stellung zur Lehre von der Vita propria.
29 *Arabian Medical Lore. Razès' "Cure in One Hour." P. Guigues.—La guérison en une heure de Razès. Traduction et notes.
30 Cyrurgia Johannis Jamarii. P. Pansier (Avignon). (Commenced in No. 6.)
31 (No. 9.) L'assistance médicale indigène à Madagascar. A. Kermorgant.
32 Swedenborg's Conception of the Corpora Quadrigemina. M. Neuburger.—Was lehrte S. über die Funktion der Vierhügel?
33 Protection of Parturients During Previous Centuries. W. v. Engelenburg.—Beschützung der Wöchnerinnen in vorigen Jahrhunderten.
34 Anatomy of Eye According to Arabian Oculists. Emir Arslan (Beyrouth).—Anatomie de l'oeil de Tezkerath-el-Kahaline ou Memorandum des oculistes d' Issa Ben Ali. See J. Hirschberg in No. 10.
35 Arnold de Villa Nova on the Therapeutic Use of Human Blood. J. F. Payne (London). (Commenced in No. 8.)
36 The Early Ophthalmoscope. E. Pergens.—Die Vorform des modernen Ophthalmoskops.
37 (No. 10.) Malaria sans moustiques. G. Treille (Marseilles).
38 Raymundus de Molerlis und seine Schrift: "De Impedimentis Conceptionis." (Fourteenth Century.) J. Pagel (Berlin).
38½ (No. 11.) Note sur la fèvre bilieuse hémoglobinurique en Algérie. J. Brault (Alger).
39 *Dress Reform Preacher in Eighteenth Century. L. Stieda (Königsberg).—Dr. Faust-Bückeburg, ein Kleider-Reformateur am Ende des XVIII Jahrhunderts. (Commenced in No. 10.)
40 Medieval Medicine in Spain. L. Comenge (Barcelona).—Contribution à l'étude de l'histoire de la médecine dans le royaume d'Aragon (moyen-age). (Commenced in No. 10.)
41 Instruction in History of Medicine in Austro-Hungary. M. Neuburger.—Ueber den Unterricht in der Geschichte der Medizin in Oesterreich-Ungarn.
42 Ibid. in France. R. Blanchard.—L'enseignement de l'histoire de la médecine à la Faculté de Paris.
43 Protection of Parturients. Geyl (Ginneken).—Das "Kraamkloppertje."
44 (No. 12.) Traitement du chalazion, de l'encanthis, de la dacryocystite et de la hernie de l'iris au Xe Siècle (tenth century). Emir Ariff Arslan (Beyrouth).
45 Zur Prioritäts-Frage Holmes-Semmelweis. S. Baruch (New York).
46 Reply to Above. T. von Györy (Budapest).
47 History of Spanish Medicine in Germany. A. Silberstein (Berlin).—Zur Geschichte der spanischen Medicin in Deutschland.
48 The Cradle and Infancy of Pharmacy. L. Boriani (Bologna).—Le berceau et les premiers ages de la pharmacie. (Commenced in No. 10.)
49 Cuneiform Clinical Notes of Otitis of an Assyrian King, 700 to 600 B. C. Oefele (Neuenahr).—Eine Ohrenerkrankung eines Assyrerkönigs.
50 Germanic Medicine. M. Höfler (Bad Tölz).—Zur altgermanischen Heilkunde.

27. **Distribution of Trypanosoma Affections.**—Laveran published last year a map showing the number of countries where trypanosoma affections are prevalent, while nine years ago the list was limited to surra in India. During the last year three new trypanosoma affections have been discovered, two of which are peculiar to man. He reviews them all, with reports of personal experimental research.

28. **Swedenborg's Conceptions of Anatomy and Physiology.**—Neuburger quotes extensively from Swedenborg's work, published in 1740, to prove that he had a remarkably accurate conception of some of the vital processes which are considered a triumph of more recent science.

29. **Razes' "Cure in One Hour."**—The book which Guigues has translated was written by Mohammed ar-Razy, who died in 930, the author of 199 other works. The one with the above title describes a large number of treatments for various affections guaranteed to cure "while you wait." The translator is professor at the French Medical College at Beyrouth, Syria, where the ancient Arabian medical writings are being systematically studied at present. Among Razès' prescriptions we note one for buzzing and noises in the ears as follows: Stir some good opium into water and instill it in the ear. The trouble will vanish immediately. He recommends a certain formula containing pyrethrum and other drugs. One pill taken before meals will suspend epilepsy for a week. For exhaustion from fatigue he advises to anoint the nails with oil, which will give immediate relief. For disturbances in the extremities due to bathing in cold water, he orders the feet to be kept for an hour in hot water to which a handful of salt has been added.

39. **Masculine Dress Reform in the Eighteenth Century.**—The preacher of dress reform to whom Stieda refers was a Dr. Faust of Bückeburg, who published a work on the subject in 1791. He was a scholarly and popular physician, and his book attracted great attention at the time, being translated into French, Dutch and English. The full title was "How to Regulate the Sexual Instinct in Man and Make Human Beings Better and Happier." His theme was a denunciation of trousers. He attributed to this masculine garment all the ills of civilization, and demanded that trousers should not be worn at least until adult age. His plea was that trousers exclude the air and keep the parts in a condition of heat and moisture which acts like a hotbed, forcing the genitalia to premature development and producing unhealthy conditions which favor relaxation and devitalization of the tissues, entailing hyperfunction and inviting disease.

Presse Médicale, Paris.

51 (II, No. 100.) Un syndrome bulbaire. Autopsie. P. Bonnier.
51½ Sur la contagion de l'angine de Vincent. S. Costa.
52 Traitement des polypes bénins du nez. P. Jacques.
53 (No. 101.) La maladie du sommeil (sleeping sickness). C. Jarvis.
54 La dyspepsie hyposthénique. Traitement médicamenteux. Hygiène spéciale. A. Martinet.
55 *Immobilizing Casts for Pott's Disease. P. Desfosses and C. Ducroquet.—Les gouttières moulées dans le traitement du mal de Pott.

55. **Cast for Pott's Disease.**—Ducroquet's cast is a modified plaster or celluloid cast similar to a *Sayre corset, only that the front is entirely cut away. This allows the thorax and abdomen full play, while enough of the cast is left, above and below, to insure a solid support for the back part. He gives 6 cuts showing the various steps of making it.

Semaine Médicale, Paris.

56 (XXIII, No. 51.)—La maladie du sommeil (sleeping sickness). Wurtz.
57 *De la compresse hydrothérapique appliquée sur la poitrine (chest). C. Fernet.
58 J. F. Malgaigne, 1806-1865.
59 *Emission de rayons de Blondlot par l'organisme humain. A. Charpentier. From society report.
60 Dissociation de la perméabilite rénale pour le chlorure de sodium et l'urée dans le mal de Bright. Widal and Javal.
61 Conclusions d'un voyage médical aux Etats-Unis (in U. S.). F. Munch.

57. **Application of Cold Compress to the Chest.**—Fernet has been advocating for some years the application of a small compress wrung out of cold water in the treatment of congestion of the lungs in infectious diseases. He has found this procedure especially valuable in grippe, typhoid fever,

pneumonia, bronchopneumonia, in congestion with edema of the lung, in incipient hemoptysis, and in certain cases of tachycardia, particularly in exophthalmic goiter. The patients are liable to start and shiver at the first application, but the relief and benefit are soon so marked that they clamor for a repetition. He uses a napkin wrung out of cold water, covered with another folded in four to protect the clothing. He leaves it half a minute and then substitutes another. The total application is thus only one minute. If the procedure is repeated, the compress must be applied at another point, as the impression of sudden cold—which is the stimulating effect on the peripheral nerve terminals sought by the application—soon becomes dulled. He attributes its action to reflex influence on the pneumogastric and on the vasomotor nerves of the sympathetic system. The only contraindication he has discovered in fifteen years' experience with this simple method of stimulation is when the patient is in profuse perspiration, and in his own practice he does not regard this as a contraindication. He cites a case of attacks of dyspnea and palpitations occurring in a young woman subsequent to diphtheria, reported by Duchenne, cured by faradization of the skin. The action of cutaneous faradization seems to him to be exactly similar to that of the cold compress.

59. **Emission of Rays by the Human Organism.**—Charpentier reported at the meeting of the Paris Académie des Sciences, December 14, that phosphorescent and fluorescent substances become more luminous when in proximity to a functioning muscle, nerve or nerve center. He was studying the Blondlot or *n*-rays at the time he made this discovery, and found that it was possible to trace the course of a functioning nerve by this greater luminosity of the fluorescent screen over it. The increase in luminosity was apparent even through interposing substances, except those which are impermeable for the *n*-rays. The rays thus emitted by the human organism reflect and refract like the *n*-rays, and are equally pronounced even after the subject has been in complete darkness for nine hours. This proves that the rays are actually emitted and not merely the effects of stored-up light in the tissues. He was able to determine the outlines of the heart by the changes in the luminosity of a small fluorescent object passed over the region. [The Blondlot or *n*-rays are detected by enclosing a gas jet, for instance, in a metal box impermeable to the heat and light rays. A window of aluminum also arrests the heat and light rays, but allows these *n*-rays to pass. If they are focused by an aluminum lens after having traversed the aluminum window, it will be found that an electric light or a scarcely visible gas flame will shine more brightly under their influence, and phosphorescent or fluorescent bodies become more luminous and active. Aluminum and paper transmit the *n*-rays while filtering out the ordinary heat and light rays, but the *n*-rays are arrested by lead. They are not heat rays, as has been proved by the calorific screen. The evidence indicates that the wave length is far below that of heat and above that of electricity. The *British Medical Journal* of January 2 comments on Charpentier's discovery above, as "opening up possibilities for research on the living body which far surpass anything that the wildest dreams of the imagination have so far suggested." His communication was presented at the meeting of the Paris Académie des Sciences, December 14, 1903.—ED.]

Centralblatt f. Bakteriologie, etc., Jena.

Last indexed page 134.

62 (XXXIV, No. 3.) Ueber die Einwirkung der Bakterien auf verschiedene Zuckerarten (action of bacteria on various kinds of sugar). A. Segin.
63 Acid-fast Bacilli in a Python. von Hansemann.—Ueber säurefeste Bazillen bei Python veticularis.
64 Origin of Young Malaria Parasites from Older Ones. M. Silberstein.—Ueber die Entstehung von jungen Malariaparasiten aus älteren. (Commenced in No. 2.)
65 Bacterium muris. L. Zupnik.
66 Disease Among Ducks. Kampmann, Hirschbruch and Lange. Massenerkrankung bei Enten mit eigennartigen Diphtherie-Bazillen-Befund der Conjunctiva.
67 Ueber die Klein'sche thier-pathogene Hefe (yeast). E. Klein.
68 A Disease of the Rat Caused by an Acid-Fast Bacillus. G. Dean (London).
69 Precipitation in Agglutination. M. Löwit. (Commenced in No. 2.)
70 Ueber die Bindungsverhältnisse zwischen Toxin and Antitoxin. P. Eisenberg.
71 On the Heat Lability of the Complements of Cold-blooded Animals and on the Multiplicity of the Serum Hemagglutinins of Cold-blooded Animals. H. Noguchi.
72 (No. 4.) *Ueber die Biologie und Pathogenität des Bacillus prodigiosus. E. Bertarelli. (Commenced in No. 3.)
73 Ueber die aktiven Substanzen des Bacterium coli. A. Carega.
74 Ueber eine infektiöse Krankheit beim Genus Turdus. A. Maggiora and G. L. Valenti.
75 Studien über den Vaccine-Erreger. H. Bonhoff. (Commenced in No. 3.)
76 Bindungs-Verhältnisse bei der Präzipitin Reaktion. v. Dungern.
77 De l'influence des toxines diphthérique et tétanique sur l'hémoglobine, la morphologie et le poids spécifique du sang. H. Kucharzewski.
78 (No. 5.) *Zum Studium des Dysenterie-Bacillus. R. Doerr.
79 *Zur Entstehung von Ratten-Epizooteen. E. Wiener.
80 Ueber Immunisirung mit Diphtherie-Bazillen. A. Lipstein.
81 Attempt to Explain the Mode of Action of Immune Bodies by Physical Properties. H. Zangger.—Deutungsversuch der Eigenschaften und Wirkungsweise der Immunkörper.
82 *Ueber die künstliche Immunität gegen Staphylococcen. Pröscher (Hamburg).
83 Studies of Immunity to Anthrax. O. Bail and A. Pettersson.—Ueber Milzbrandimmunität.
84 Etude de l'origine de l'aléxine bactéricide. U. Lambotte.
85 Eine neue Methode für den raschen Nachweis des Bacillus icteroides Sanarelli. I. Bandi.
86 Differential-Diagnose des Typhus-Bacillus vom Bacterium coli auf Grund der Säurebildung (on basis of acid formation). R. Zielleczky.
87 (No. 6.) Ueber ein akut wirkendes Bakterientoxin. R. Kraus.
88 Ueber die Virulenz der Tuberkel-Bacillen. Vagedes. (See Krompecher's article in No. 8.)
89 Helminthologische Beobachtungen. (Ankylostomum americanum, Mermis, Paramermis, Hydromermis und Gyrocotyle.) v. Linstow (Göttingen).
90 Invasion of Ankylostomum by Way of the Skin. G. Pieri (Rome).—Einwanderung der Ankylostomen von der Haut aus. (See Looss' article in Vol. XXXIII.)
91 Attempt to Explain the Rabbit's Susceptibility to Anthrax. O. Bail and Pettersson.—Versuch einer Erklärung der Milzbrandempfänglichkeit des Kaninchens.
92 Cholera Immune Bodies. E. P. Pick.—Ueber den Gehalt der einzelnen eiweissfraktionen des Serums an Choleraimmunkörpern. Reply by A. Wolff.
93 Does Tetanolysin Form a Non-toxic Combination with the Proteids of Serum and White of Egg? T. Müller.—Geht das Tetanolysin mit den Proteiden des Serums und des Eiklars eine ungiftige Verbindung ein?
94 Zur Frage des Pankreas-Cytolysins. E. Sauerbeck.
95 Naphthol Blau als Reagens auf Bakterienfett. A. Meyer.
96 Zur kulturellen Differenzierung der Ruhr-Bacillen gegenüber ruhrähnlichen Bakterien (dysentery bacilli). H. Hetsch.
97 Die Cholera-Diagnose mit Hilfe eines Spezial-Agars. Hirschbruch and Schwer (Posen).
98 Ueber die Trink-Wasser-Desinfektion mit Iod nach Vaillard. G. Obermaier. Tests always partly negative.
99 Apparatus for Cultivating Micro-organisms in Constant Current. E. Wiener.—Apparat zur Züchtigung von Mikroorganismen in beweglichen flüssigen Medien.
100 Cultivation of Anaërobic Bacteria. O. Streng.—Zur Züchtung der anaëroben Bakterien.
101 Löffler Mouse-Typhus Bacillus on Certain Medium.—C. Siebert. Ueber das Verhalten des Loffler'schen Mäusetyphusbacillus zu dem v. Drigalski-Conradi'schen Nährboden.

72. **Pathogeneity of Bacillus Prodigiosus.**—Bertarelli has found that this bacillus induces a fatal, toxic septicemia in laboratory animals.

78. **Dysentery Bacillus.**—In an epidemic comprising 118 cases of dysentery, Doerr was able to cultivate from the stools a bacillus corresponding in all particulars to the Shiga bacillus.

79. **Rats in Etiology of Typhoid.**—Wiener affirms that typhoid bacilli are liable to remain alive in rats for a month after typhoid dejecta have been eaten by the animals. By their dejecta in turn they are liable to infect articles of food and drinking water.

82. **Artificial Immunity to Staphylococci.**—Pröscher announces that he has succeeded in producing a powerful antistaphylococcus serum which is not bactericidal, but owes its efficacy to its power of rendering the leucocytes chemotactic, so that they devour the cocci with avidity, in addition to its antitoxic power. The prepared serum is derived from horses and goats. He reports only experimental tests of it.

Centralblatt f. Gynäkologie, Leipsic.

Last indexed page 134.

102 (XXVII, No. 50.) *Modified Method of Inducing Sterility on Account of (probable) Recurring Pregnancy Eclampsia. P. Rissmann (Osnabrück).—Eine modifizierte Methode zur Herbeifuhrung der weiblichen Sterilität, etc.
103 Epithelial Cavities in Lymph Glands. A. Falkner (Wertheim's Clinic, Vienna).—Zur Frage der epithelialen Hohlräume in Lymphdrüsen.
104 Plastic Closure of Vesico-Vaginal Fistula with Cervix. H. Thomson (Odessa).—Der plastische Verschluss von Blasen Scheidenfisteln vermittels der Cervix uteri.
105 (No. 51.) *Gynecologic Conditions Subsequent to Placenta Previa. E. Radtke (Königsberg).—Ueber gyn. Folgezustände der Placenta Previa.

106 Normal Site of Organs in Female Pelvis and Their Most Frequent Defective Development. H. Sellheim (Wiesbaden).—Der normale Situs der Organe im weiblichen Becken und ihre häufigsten Entwicklungshemmungen.
107 Instrument to Facilitate Suture of Lacerations of Vagina and Perineum. M. Stolz (Graz).—Ein Spiegel zur Scheiden-Dammnaht.

102. **Artificial Sterilization.**—Rissmann caused the occlusion of the tubes by cutting a wedge-shaped piece out of each, according to the usual technic. The modification consists in the fact that he operated through an incision in the Douglas cul-de-sac instead of by anterior colpotomy. The technic is much simpler than by the latter route.

105. **After-Results of Placenta Previa.**—Almost three-fourths of Radtke's 80 cases of placenta previa suffered from anemic disturbances subsequent to it. In 53 the anemia could be traced directly to the placenta previa. In 3 previously existing anemia was much aggravated. In another patient who did not exhibit anemia it developed subsequent to a second, normal pregnancy. All complain of weakness, frequent headaches and vertigo. Other patients have exhibited symptoms of a parametritic character, so that of the total 80 fully 61.25 per cent. have been more or less incapacitated for work. His statistics also show that abortion is liable to occur after placenta previa. This was noticed in 23 of the 80 patients, and the abortions recurred several times in 8. His material is reviewed in detail.

Deutsche medicinische Wochenschrift, Berlin and Leipsic.

108 (XXIX, No. 52.) *Zur Technik der Hände-Desinfektion. E. Braatz (Königsberg).
109 *Becoming Accustomed to Arsenic. W. Hausmann.—Zur Kenntniss der Arsengewöhnung.
110 *Ueber die nach Injektion von Diphtherie-Heil-Serum auftretenden Exantheme, insonderheit über die scharlachähnlichen. Oberwinter. (Commenced in No. 51.)
111 Tabische Osteo-arthropathie der Wirbelsäule (of spine). Graetzer.
112 *Vaselin- oder Hart-Paraffin-Prothesen? H. Eckstein (Berlin).
113 Ueber das "harte traumatische Oedem" des Hand-Rückens. R. Grünbaum (Vienna). (Commenced in No. 51.)
114 *Phthisis in Gebirge (in mountain regions). E. Fischer.

108. **Disinfection of Hands.**—Braatz gives cuts of his model washstand, in which the flow of the fluid from the jar of alcohol or bichlorid solution above is controlled by a pedal. The jars are high enough so that the arm can be rinsed in the fluid. He also illustrates his folding nail cleaner, or rather scraper, and recommends the use of a small double magnifying glass, such as he always carries with him to inspect his fingers after disinfection to detect any possible lurking places for contamination.

109. **Habituation to Arsenic.**—Hausmann succeeded in conferring a very slight degree of immunity on fowls and dogs by previously treating them with repeated small doses of arsenic. This slight immunity resembles that attained by the Steiermark arsenic eaters, and, like that, is minimal and scarcely beyond the tolerance observed within natural limits. Both the Steiermark arsenic eaters and the animals succumb when larger doses are taken—even when the size of the dose is less than what has been tolerated in certain cases of poisoning. The arsenic is much less toxic apparently in the powder than in solution.

110. **Exanthemata After Injection of Diphtheria Antitoxin.**—Oberwinter describes several cases of what were assumed to be the above, but later proved to be genuine scarlet fever. He emphasizes the fact that the exanthem which develops in the first five days, especially during the third to the fifth day after the injection of serum, should be regarded with great suspicion. In the majority of cases it will prove to be genuine scarlet fever. The first appearance of the eruption at the point of the injection is not a proof of its being a serum eruption, but rather of the contrary, that it is genuine scarlet fever. The cases are generally due to dual infection, before admittance to the hospital, with true diphtheria and true scarlet fever. At the same time he does not deny that a true serum exanthem may assume the form of a scarlatinal eruption.

112. **Hard vs. Soft Paraffin Prothesis.**—Eckstein reviews the literature on the subject of Gersuny's paraffin prothesis, and summarizes that 7 or 8 cases of pulmonary embolism from the use of soft paraffin are on record, with one death, and 2 in rabbits, both fatal. Beside this, there is a case on record of thrombosis of the ophthalmic vein and another of embolism of the centralis retinæ, both terminating in loss of vision in the eye affected. On the other hand, he has never had a single mishap in his 154 cases with possibly 1,000 injections of hard paraffin. He thinks that it is destined to be the normal procedure for umbilical hernia and as a palliative in certain cases of inguinal hernia. In several cases of cleft palate he has improved the speech to such an extent by injection of the hard paraffin into the rear wall of the pharynx that the patients have been able to obtain more lucrative employment. (The technic, etc., were given in THE JOURNAL, xl, 1903, pages 64, 613 and 1114.)

114. **Phthisis in the Swiss Mountains.**—Fischer has been studying the carefully kept vital statistics of two Swiss towns of 600 and 1080 inhabitants, the first about 2,500 feet and the second 5,525 feet above the level of the sea. He found that the mortality from tuberculosis during the last twenty years was 7.04 per cent. of the total mortality in the lower, and 3.8 per cent. in the higher town of all deaths during this period. The proportion per 1,000 inhabitants per year is only 1.5 in the former and .74 in the latter. The townspeople say that those who stay at home do not become tuberculous and those who acquire it elsewhere are restored to health on their return.

Münchener med. Wochenschrift, Munich.

115 (L, No. 51.) Premature Detachment of Placenta. G. Schickele (Strasburg).—Beiträge zur Klinik der vorzeitigen Lösung der Plazenta bei normalem Sitze.
116 Agent of Human Actinomycosis. K. Doepke (Bamberg).—Weitere Mitteilungen über den Erreger der menschlichen Aktinomykose.
117 *Is Forced Feeding Necessary? K. Bornstein.—Sind Mastkuren Nötig?
118 Ueber Tabes juvenilis und Lues hereditaria. C. Hartmann.
119 Case of Volvulus Occluding Vagina and Preventing Delivery. J. Saks.—Fall eines ungewöhnlichen Geburtshindernisse.
120 Combined Powder Insufflator and Tongue Holder. Dreber (Düsseldorf).—Ein sterilisierbarer Pulverbläser, verbunden mit einem Zungenspatel.
121 Rapid Hardening and Embedding. M. Behr.—Ueber Schnellhärtung und Schnelleinbettung.
122 Apparatus for Simultaneous Extraction of Gastric Juice and Insufflation of Stomach with Air. Rosenau (Kissingen).
123 Treatment of Recent Laceration of Perineum. M. Lehmann.—Behandlung des frischen Dammrisses.
124 Structure and Importance of Bacteria. P. Ernst.—Ueber Bau und Bedeutung der Bakterien. (Commenced in No. 50.)
125 Experts' Testimony in the Konitz Murder Case.—Ueber den Konitzer Mord.

117. **Technic of Forced Feeding.**—Bornstein relates that he has had many patients apply to him after taking a so-called Weir Mitchell course of rest and forced feeding. The cases that had been improved by it were the exceptions. He explains this lack of improvement as due, among other things, to the lack of exercise. The plus in feeding should be accompanied by a plus in exercise, or the cells are unable to take care of the material accumulating. His studies in metabolism have convinced him that albumin alone is what the cells need, and that they must be stimulated by exercise to utilize the supply of albumin, thus crowding out the debilitated elements of the cells with fresh, newly-organized elements. He does not approve of meat for the purpose, considering an oversupply of meat synonymous with gout, but orders casein albumin in some form, such as nutrose, plasmon, sanatogen, or fresh, soft cheese, eggs and buttermilk, much preferring the two first as more inexpensive and convenient. He supplements the albumin with quinin and iron pills and light exercise. The patient retains his freedom, and is not stuffed as if he were being fattened for a fat cattle show. The Weir Mitchell course is indicated in cases of excessive emaciation, in neurasthenia and in cases of wandering kidney in which a support of fat for the floating organ is needed. In all others the simple technic described above is amply sufficient, he believes.

Therapie der Gegenwart, Berlin.

Last indexed page 136.

126 (XLV, No. 1.) *Infant Feeding and Infant Mortality. E. von Behring (Marburg).—Säuglingsmilch und Säuglingssterblichkeit.
127 *Thoughts on the Medical Profession and Its Aims. F. Harnack (Halle).—Betrachtungen über Heilen und Heilzwecke.

128 Action of Carbonated Baths. H. Senator and F. Frankenhäuser (Berlin).—Zur Kenntnis der Wirkung von kohlensäure- und anderen gas-haltigen Bädern.
129 Billard's Aspiration Drainage of Empyema. F. Schultze (Bonn).—Ueber die Bülausche Heberdrainage bei Empyemen.
130 *Radiotherapy of Cancer. P. v. Bruns (Tübingen).—Krebsbehandlung mit Röntgenstrahlen.
131 *Ueber Therapie des Ekzems. O. Lassar (Berlin).
132 *Present Status of Campaign Against Bovine Tuberculosis According to Behring. G. Klemperer.—Der jetzige Stand der Bekämpfung der Rindertub. nach Behring.

126. Milk for **Infants and Infant Mortality.**—Behring has been continuing his research to discover a practicable means of preserving milk, and describes his numerous experiments and experiences. He has established that formalin will keep milk from souring even in the small proportion of 1/4,000, and that the most sensitive animals take it without apparently detecting the addition of the drug, and persons are unable to tell the milk thus treated from pure milk. Addition of formalin up to 1/500 proved absolutely harmless for all the various animals investigated, whether the milk was ingested per os or injected into a vein or under the skin or into the peritoneal cavity. He further states that by a special technic which he has devised and will soon publish he was able to preserve milk so effectually that it could not be detected from fresh milk when delivered at a distance eight days after the milking. The milk thus preserved was derived from his immunized cows, and his method of preservation did not impair in any appreciable manner the immune bodies contained in the milk. He tabulates the results of tests which showed that addition of 1/10,000 formalin kept the milk from souring for six days. Calves fed on this formalinized milk thrived better than the controls, while prevailing diseases were eradicated by this method of feeding. Not a single case of "Kälbersterben" (calf dying) occurred in one stable in which it had previously been extremely prevalent and invariably fatal. The results observed indicate that formalinized milk is more readily digested than ordinary milk, as it coagulates in delicate flakes. Heating the milk injures the immune bodies, and hence heat sterilization can not be applied to the milk of his immunized cows. (See his articles, THE JOURNAL, xli, pages 1178 and 1266.) Fresh horse serum has a destructive action on anthrax virus, which it loses after six hours. Cow serum does not possess this destructive action on anthrax bacilli nor on streptococci, staphylococci, and certain other bacteria. Reasoning from the fact that young calves are not affected by the colon and lactic acid bacilli, which they must ingest in considerable numbers, Behring surmised that their serum must have antibacterial action for these two varieties of bacteria. This surmise was confirmed by the results of tests which established that the serum and the milk of cattle contain isopathic antibodies for these two varieties. Fresh milk contains a powerful antibody against the colon bacillus, but the proportion is less than that in the blood serum, as the latter contains more of the blood albumin. The same is true in regard to lactic acid bacilli, but to a lesser extent. He is convinced that the antibacterial action of these antibodies is plus that of the formalin in his preserved milk, which is remarkable, as usually the antibacterial action of chemicals is rather antagonistic. He refers to his previous announcements of the unprotected condition of the alimentary canal of infants and young animals owing to the imperfect development of the mucous lining, and comments on the perils to which we expose infants by depriving them of these powerful antibodies in the milk against the colon and the lactic acid bacilli, as the antibodies are destroyed by heating the milk. Jensen has recently reported experiments which showed that boiled milk given to newborn calves for their first meal invariably induced a violent diarrhea similar in every respect to the spontaneous disease known as "Kälberruhr" (calf dysentery). It is immaterial to adults whether they take boiled or unmodified milk, but Behring is convinced that the infant mortality in our large cities is closely connected with the use of heated milk in which we have destroyed the antibodies so sorely needed by the infant organism. In conclusion, he summarizes that he will have accomplished his aim if he can convince families, communities, physicians and local authorities of the fact that when mother's milk is unattainable, the true food for the infant is not heated milk, but pure, unmodified milk from cows absolutely free from the suspicion of tuberculosis. When it is impossible for the infant to obtain the milk direct from the cow, then he is strongly in hope that the new technic of preservation which he outlines here will be found a very important aid in the prevention of infant mortality.

127. **The Healing Art.**—Harnack's article comments on the tendencies of the day and the way to combat quack practices. He uses the untranslatable word "Heilen," which, as he remarks, includes the three Latin verbs mederi (from which medicus) is derived, curare (from cura, care), and sanare (to make well). The physician's task includes the three, and he should not ascribe undue importance to the bacteriologic laboratory. He advocates sending young physicians into the homes of the poor for their "practical year," instead of placing them as fifth wheels in already sufficiently well-equipped hospitals, where they are not needed.

130. **Radiotherapy of Cancer.**—Bruns concludes from a comprehensive summary of what has been published on this subject in America and Europe, as well as his own extensive experience, that the large majority of carcinomata are not amenable to radiotherapy. Those situated near the surface are favorably influenced, but they are not completely cured. Cancroids of the skin alone are capable of being completely cured by radiotherapy. It is particularly valuable as a palliative in inoperable cases of mammary cancer, etc., and the delay for trial of radiotherapy in ulcus rodens is justifiable on account of the slow development and the possibility of complete cure. It should be applied by experts, and the public and physicians should be amply warned not to dally with radiotherapy until the propitious moment for the knife has passed. It has not proved the long-sought remedy for cancer, but it is more important than any other yet advanced, as is evident from inspection of its action on the specific elements of the carcinoma.

131. **Treatment of Eczema.**—Lassar describes his technic for the treatment of eczemas, and concludes with the statement that the Röntgen rays are liable to prove very valuable for the treatment of certain eczemas. They have displayed especial efficacy in cases of chronic eczema of the hand. Even a few applications will abolish the itching, reduce infiltration and render the surface smoother and of a more normal aspect. Persevering treatment has entailed complete and permanent cures.

132. **Immunization of Cattle Against Tuberculosis.**—More than 1,000 head of cattle have been immunized against tuberculosis by Behring's method to date, and the results confirm all his assertions. The vaccine is supplied by a Marburg firm (Dr. Siebert and Dr. Ziegenbein), with full directions. The veterinarians are clamoring for compulsory vaccination of all calves by this method.

Wiener klinische Rundschau, Vienna.

Last indexed page 137.

133 (XVII, No. 42.) *Hernia Into Umbilical Cord. G. Lotheissen.—Ueber Nabelschnurbruch.
134 *Automatic Test of Vision. R. Weiss (Kladno).—Eine einfache Sehprobenvorrichtung.
135 (No. 43.) *Skoloiditis und Colica saturnina. J. Donath.
136 Die Keratitis neuroparalytica und verwandte Zustände. W. Albrand.
137 Aetiologie und Symptomatologie der Dickdarmverrengungen (constriction of large intestine). J. Goedhuis (Deventer, Holland). (Commenced in No. 41.)
138 (No. 44.) *Torquirte Ovarial-Hernie. J. Schnitzler.
139 (No. 45.) Epilepsie und Harnsäure (uric acid). J. Hoppe.
140 *Zur Lehre von der syphilitischen Anemie mit bes. Berücksichtigung der Blut-Veränderungen und der Urobilinurie. F. Samberger (Prague). (Commenced in No. 43.)
141 (No. 46.) *Zur Technik der Magenausheberung (aspiration of stomach contents).—A. Neumann.
142 Ueber die Heberden'schen Knötchen der Finger. O. Rosenbach.

133. **Hernia Into Umbilical Cord.**—Lotheissen describes with cut a case of this rare condition which he remarks is rather a malformation than a congenital rupture, as the intestines do not protrude, but simply have not receded into the abdominal cavity as in a normal fetus. The fissure may extend into the abdominal walls or be confined to the umbilicus, or the hernia may be rather a rupture of Meckel's diverticulum.

Only about 90 cases of these three varieties have been published in the literature during the last twenty years. Surgical intervention is indicated within the first twenty-four hours after birth. Out of 68 cases operated on, 70.6 per cent. of the children recovered without mishap. The intraperitoneal radical operation, he thinks, is the only one to be considered. Narcosis should not be applied unless in exceptionally severe cases with rupture of the hernial sac, as in a case described by Bayer in which 30 gm. of chloroform had to be used. The smaller the protrusion the better the results. Fully 50 per cent. of all the cases in which the liver protruded also terminated fatally.

134. **Sight-Testing Apparatus.**—The test card is enclosed in a box with a slit allowing only one line to be seen at a time. The examiner sits beside the patient and raises or lowers the test card by a string and pulley. The appliance is particularly valuable to detect simulation.

135. **McBurney's Point in Lead Colic.**—Donath relates from Nothnagel's clinic at Vienna a number of examples to show that the tenderness at McBurney's point, supposed to be pathognomonic of appendicitis, is a typical sign of an isolated attack of lead colic or an indication of the onset of a severe exacerbation. In these cases it may be accompanied by colic pains restricted to the right lower region of the abdomen. Also during the subsidence of an attack of lead colic there may be diffuse colic pains and tenderness at McBurney's point without spontaneous pains. This combination rarely occurs at the onset of an attack. During very mild attacks of lead colic the sole clinical sign may be the sensitiveness to pressure of the region, including McBurney's point. There is no doubt that a number of such cases of lead poisoning have been erroneously operated on as cases of appendicitis.

138. **Torsion of Ovarian Hernia.**—Schnitzler states that the case described is the third in which hernia of an infant's ovary was complicated by torsion. There were no severe symptoms on the part of the peritoneum such as are noted in case of torsion of an ovarian tumor in adults. This indicates, he thinks, that the symptoms are not due to the torsion so much as to the irritation from the tumor in the abdominal cavity. An infant's ovary is probably less sensitive to injury than an adult's.

140. **Syphilitic Anemia.**—Samberger explains this condition as the result of the action of the syphilitic poison on the blood corpuscles. It renders them less resistant. Consequently when mercurial treatment is instituted the blood corpuscles are destroyed by the mercury for a time, but soon the effect of the mercury is seen in the improvement in the general condition. As a part of this improvement the corpuscles become more and more resistant and the mercury, which at first had a destructive action on them, ceases to affect them. He thinks that determination of the lesser resistance of the corpuscles will afford insight into the problem whether the syphilitic infection is still restricted to the primary lesion or has already invaded the organism as a whole. He gives the blood findings in 13 cases studied.

141. **Aspiration of Stomach Contents.**—Neumann uses merely a stomach tube and Politzer air bag, and describes the advantages of this combination. In more than 1,000 applications of the stomach tube in this combination he has never had occasion to remove the tube on account of its becoming obstructed. The removal of the air bag from the end of the tube, emptying and replacing it, are easy, simple and generally more cleanly than the use of the funnel from which more or less of the contents is liable to be spilt in the manipulations. The pressure from the air bag is gentle and controllable so that the danger of injury to the stomach wall is reduced to the minimum. The communication issues from Schlesinger's clinic, Vienna.

Wiener klinische Wochenschrift, Vienna.

Last indexed XLI, page 1309.

143 (XVI, No. 42.) *Peripheral Constriction of Pulmonary Artery. M. Weinberger.—Ueber periphere Verengerung der Pulmonalarterie und die klinischen Zeichen derselben.

144 *Hitherto Undescribed Post-Syphilitic Stigma. G. Nobl.—Ueber ein bisher unbeschriebenes post-syphilitisches Merkmal.

145 *Mistakes in Exercise Treatment of Tabes and Their Consequences. A. Frank.—Kunstfehler in der Uebungstherapie der Tabes und ihre Folgen.

146 Zur Kenntnis der Glutäal-Abszesse. D. Kokoris (Athens).

147 (No. 43.) Study of Physiology of Thoracic Vagus and Pulmonary Emphysema. M. Sihle (Odessa).—Experimentelle Beiträge zur Physiologie des Brust-Vagus nebst Bemerkungen über akute Lungen-Blahung.

148 Ueber Grubers Kälte-Einwand gegen die Amboceptor-Theorie. J. Morgenroth.

149 Zur Histologie der hymenalen Atresie der Scheide. L. Wechsberg.

150 *Reducing Size of Nose. A. Neudorfer.—Operative Verkleinerung der Nase.

151 (No. 44). *Ueber die Total-Exstirpation der hypertrophischen Prostata. O. Zuckerkandl.

152 Plastic Operation on Palate with Nasal Septum. O. Födert.—Ueber Gaumenplastik aus der Nasenscheidewand.

153 *Gelatin Hemostasis. L. Moll (Prague).—Die blutstillende Wirkung der G.

143. **Peripheral Constriction of Pulmonary Artery.**—Weinberger comments on the various causes which may induce compression of the peripheral portions of the pulmonary artery, citing extensively from the literature. He mentions among others Kasem-Beck's case of stenosis from compression by a gumma, and v. Schrötter's case, in which both of the main branches of the pulmonary artery were compressed by a metastasis from a locally extirpated uterine cancer. He has observed a personal case in which the physical signs suggested an aneurism or cancer of the descending aorta. The patient was a man of 48, a tavern keeper. The necropsy revealed a carcinoma in the left main bronchus invading the left recurrent nerve and compressing the left pulmonary artery with numerous metastases. The principal physical sign had been a rough, extensive systolic sound heard faintly over the left lung and very loud and rough over the right lung and over the back, its maximum intensity at the right lower margin of the sternum. The sound originating in the main trunk of the pulmonary artery was thus transmitted into the right branch, where the conditions were comparatively favorable for its propagation, while it was arrested in the compressed left branch. He thinks that this sign will enable such a compression to be diagnosed in future.

144. **New Post-Syphilitic Stigma.**—Nobl found the sign he describes in 18 per cent. of 150 syphilitic subjects free from any perceptible manifestations of their disease, that is, in 37 subjects whose infection dated from two to twenty years before. The sign to which he refers is the appearance of the scrotum, indicating atrophy and involution after infectious infiltration. He describes the appearance as an arrangement of the wrinkles on the surface in the form of circles and arcs, causing patches of a delicate tracery. The patches are a bluish gray in color and are evidently the result of regressive metamorphosis, and may prove useful in establishing a retrospective diagnosis.

145. **Mistakes in Exercise Therapy of Tabes.**—Frank styles Frenkel's introduction of exercises into the re-education of tabetics as one of the most important achievements of recent years. But at the same time, he says, when it is done without due regard to the pathologic conditions, it frequently does more harm than good. Exercising until exhausted is a frequent fault whose consequences are an aggravation of the condition. He also points out that the chief aim should be to re-educate the trunk, not the legs. Exercises done with the subject reclining merely fatigue without doing the least good. He even suggests that the aggravation which may result from unskillful application of exercise therapy might render the physician liable to pecuniary damages as a thoughtless application of this method of treatment may come under the legal definition of malpractice.

150. **Reducing Size of Nose.**—Gersuny recently operated on a young actor with an unduly prominent nose by resecting part of the framework of the nose through the septum mobile, not disturbing the skin at all. The technic followed is described in detail, with cuts.

151. **Total Extirpation of Hypertrophied Prostate.**—Zuckerkandl gives an illustrated description of his technic and of 13 cases operated on. He also reviews the indications and contraindications for radical intervention. He operated on 8 patients by the perineal route and the results were the restora-

tion of normal micturition in every instance. The lower the prostate and the more prominently it protrudes, the easier it is removed by this route. Diffuse enlargement with the upper margin of the prostate not accessible to palpation, affords much less favorable conditions for intervention. He works through an arc incision in front of the rectum, pushing back the rectum with a broad spatula fastened to the table, which lifts up the prostate. He then slits the capsule and removes the lobes by blunt dissection. The hemorrhage is trifling. His experience with suprapubic prostatectomy was disastrous in the 2 cases in which he attempted it, both patients succumbing to sepsis. The danger of hemorrhage by this route is also great.

153. **Gelatin Hemostasis.**—Moll tabulates the results of extensive experimental research on rabbits and dogs to determine the action of gelatin on the coagulating of the blood. He finds that external application aids in checking hemorrhage by agglutinating the corpuscles. Injected subcutaneously it aids in the production of fibrinogen.

Medicinskoe Obozryenie, Moscow.

Last indexed XLI, page 1174.

154 (LIX, No. 11.) *New Contributions to Pathology of Irresistible Movements Resulting from Focal Brain Affections. V. A. Muratoff (Moscow).—Novye dannya k patologii nasilstvennykh dvizhenii pri gnyezdnykh mozgovykh zabolyevaniakh.

155 Slutchai Narcolepsii. N. E. Kusheff.

156 *Sarcoma in Testicle Retained in Abdominal Cavity. M. N. Shevandin.—Sarcoma yaitchka zaderzhannago v briushnoi polosti.

157 Importance of Thalassotherapy in Scrofula and Tuberculosis. S. Hillerson.—O znatchenii talassoterapii v borbye s zolotukhoi i tuberk ulozom.

158 (No. 12.) Record of 3 Cases of Simultaneous Extra- and Intrauterine Pregnancy. I. M. Lvoff.—Odnovremennaya matotchnaya i vnyematotchnaya beremennost.

159 Case of Ileus from Complication of Pregnancy with Ovarian Cyst. P. I. Kuzmin.—O kishetchnoi neprokhodimosti, kak slyedstvii oslozhneniya ovariaknoi kisty beremennostiu.

160 *Cytodiagnostik exudatov. L. Jacobsohn.

161 *Case of Pulmonary Phthisis with Cavities and Cardiac Defect Terminating in Recovery. P. Otradinski.—Slutchai legotchnoi tchakhotki s kavernami pri odnovremennom porok serdtza. Vyzdorovlenie.

162 *Internal Treatment of Gonorrhea. Reissner (Schoeneberg).—O vnutrennem lyetchenii pereloya.

163 (XL, No. 13.) *Diabetes insipidus v dyetskom vozrastye (in children). A. V. Popoff.

164 Case of Combined Typhoid and Measles. A. K. Morozoff.—Slutchai sovmyestnago tetcheniya briushnogo tipha i kori.

165 Case of Cystic Lymphangioma of the Great Omentum. V. S. Dyevitzki.—Slutchai myeshkovidnoi lymphangiomy bolshogo salnika.

166 Abnormal Chorda Tendineæ in Human Heart. I. F. Pozhariski.—O strunakh v serdtzye tchelovyeka.

154. **Irresistible Movements in Focal Brain Affections.**—Muratoff gives the clinical course and postmortem findings in a case which he thinks sustains his previous announcements in regard to the dependence of the uncontrollable movements on the destruction of the system of cerebellar peduncles. The character of the movements differs from that of cortical contractions in both the clinical and anatomic aspect, as he shows by cuts and analysis of his own experience and that of others published in the last few years.

156. **Sarcoma in Retained Testicle.**—The patient whose case is described by Shevandin was 33 years old. He had noticed pain in the right abdomen for several months and the development of a tumor. Shevandin has found 15 similar cases on record, the nature of the tumor varying. The clinical diagnosis in his case was sarcoma of mesentery and retained testicle, confirmed by an exploratory laparotomy. The patient was too weak for further intervention and died not long after. The findings are described in detail, with cuts.

160. **Cytodiagnosis of Exudates.**—Jacobsohn's observation of 14 cases has convinced him of the great value of cytodiagnosis for the differentiation of exudates. His experience has confirmed in every respect the announcements of Ravault and Widal in regard to the certainty of tuberculous infection when a serous or sero-fibrinous exudate contains lymphocytes and red corpuscles alone. This applies both to pleuritic and ascitic exudates. Inoculation of guinea-pigs always resulted in tuberculosis when the exudate was of this character and otherwise not. These findings were also always corroborated postmortem. Neutrophile cells predominated in the exudate in 2 cases of empyema of the pleura. In one case of cirrhosis of an atrophied liver the exudate contained merely polynuclears and endothelial cells, and no traces of tuberculosis could be discovered at the necropsy. He, therefore, in conclusion commends the method of cytodiagnosis as an important aid for differentiation of pleuritic and other exudates by the general practitioner.

161. **Recovery with Lung Cavities and Heart Defect.**—The patient in this case was a woman of 48, and several physicians confirmed the diagnosis of chronic pneumonia with cavities, and febrile exacerbations, night sweats, extreme emaciation and edema of the limbs and other evidences of mitral insufficiency and stenosis of the left auriculo-ventricular opening. The dyspnea was so pronounced that it not only prevented sleep, but also interfered with speaking and swallowing. The condition was the outcome of constantly progressing illness during a series of years. As the anticipated speedy dissolution did not follow, the patient was taken away from the clinic by her friends, the only advice given her being to "live on milk." She returned four months later in good health and spirits. She had been taken by her brother to his home in the country—carried on a bed in a wagon—and took no medicines but progressive quantities of milk, the maximum finally reached being a "half a pail" a day. Examination of the lungs showed absolute dulness over the sites of the former cavities, with bronchial breathing and no râles. The heart was working in a state of perfect compensation. Two years later Otradinski had occasion to carry this same patient through an attack of articular rheumatism, from which she rapidly recovered.

162. **Internal Treatment of Gonorrhea.**—Reissner commends the favorable action of gonosan, a combination of oil of santal and kava-kava, as an internal remedy in gonorrhea. He has used it in 35 cases and found that it materially improved the distressing symptoms, especially the desires to urinate and painful erections, while the pus became liquefied. The only exceptions to this beneficial action were in cases of chronic cystitis.

163. **Diabetes Insipidus in Children.**—Popoff states that 10 cases of this affection in children have been published in Russia, with 6 of diabetes mellitus. He describes 2 additional cases of the former and remarks that the maximum duration has been six years. An inherited nervous predisposition was evident in about half of the cases. In 2 there had been a preceding trauma affecting the head, with epileptic seizures. The age ranged from 18 months to 14 years. In treatment he gave valerian, Fowler's solution and quinin. The prognosis is favorable in general. In 4 out of the 12 cases the improvement was marked and permanent, but a favorable environment is an important factor in recovery.

Russkii Vratch, St. Petersburg.

Last indexed XLI, page 1590.

167 (II, No. 22.) *Finding of Typhoid Bacilli in Roseola. G. N. Kazarinoff.—Eberth'ovskiya palotchki v briushno-tiphoznykh roseolakh.

168 Classification of Glaucoma. Committee Report.

169 *Splenectomy and Talma's Operation in Case of Ascites of Malarial Origin. B. K. Finkelstein.—Slutchai udaleniya selezenki i operatzie Talma pri briushnoi vodyankye bolotnolikhoradotchnago proiskhozhdeniya.

170 Case of Local, Symmetrical Ichthyosis. S. V. Znamenski.—Slutchai myestnago ikhtioza.

171 (No. 23.) *Influence of Nerves of Taste on Digestion. P. Y. Borisoff (Odessa).—Znatchenie razdrazheniya vkusovykh nervov dlya pishtchevareniya.

172 Case of Progressive Pernicious "Tapeworm Anemia," with Study of Anemic Heart Sounds. V. F. Orlovski.—K utcheniyu o glistnom zlokatchestvennom narostayushtchem malokrovii i o t. naz. malokrovykh serdetchnykh shumakh. (Commenced in No. 22.)

173 (No. 24.) *Experimental Study of Adrenalin. V. F. Simonovitch.—Materialy k voprosu o dyestvii adrenalina.

174 *Case of Syphilitic Jaundice. T. K. Geisler.—Slutchai zheltukhi.

175 Dislocation of Shoulder, etc., in Syringomyelia. S. S. Nablandoff.—O vyvikhakh pletcha pri syringomielii.

176 (No. 25.) Fat Ferment (lipase) in Intestinal Juice.—V. N. Boldireff.—O zherovom fermentye (lipazye) v kishetchnom sokye.

177 *Clinical Study of Movable and Wandering Kidney. V. L. Janovski.—O podvizhnoi i bluzhdayushtchei potchkye (Commenced in No. 24.)

178 *Slutchai "polyarthritis syphilitica." K. Z. Villanen.

179 (No. 26.) *Relations Between Taste and the Needs of the Organism. P. Y. Borisoff.—Cootnoshenie mezhdu vkusom i potrebnostyami organizma.

180 *Hypnosis in Incurable Organic Disease. A. A. Pyevnitzki.—Hypnoz pri neizlyetchimykh organitcheskikh porazheniyakh.

181 *Suture of the Bladder After Suprapubic Lithotomy. V. V. Rozanoff.—K. voprosu o shvye motchevogo puzyrya.
182 (No. 27.) Rôle of Internal Organs in Production of Immunity. S. I. Goldberg-Zlatorogoff.—Ob utchastii, etc.
183 *Actinomycosis of Lachrymal Duct. M. I. Auerbach.—Gribkovie sleznykh canaltzev. (Commenced in No. 26.)

167. **Typhoid Bacilli in Roseola.**—From the positive findings in a number of cases Kazarinoff regards the roseola patches as the result of inflammation of the skin due to invasion of the lymphatics of the papillary layer by the typhoid bacilli.

169. **Talma's Operation in Malarial Ascites.**—Finkelstein reports from the city hospital at Batoum a case of severe malaria distinguished by extensive ascites as well as spleen enlarged to 20 by 30 cm. in its longest diameters. After failure of other measures he removed the spleen and performed a typical Talma operation, hoping to cure the ascites. The results were eminently favorable, although arsenic and quinin were needed at first. The patient soon regained complete health. He refers to twenty Russian authors who have reported excellent results from ablation of the spleen in malaria, with no mortality. The combination with Talma's operation, however, is original with him, he believes.

171. **Important Role of Nerves of Taste in Digestion.**—Borisoff has been carrying on research at Odessa along the lines of Pawlow's studies of the digestion. The fresh secretion of gastric juice during sham feeding is due to the action of the particles of food on the nerves of taste causing, by reflex influence, this secretion in the stomach. The mucous membrane of the mouth and throat responds to stimuli in this line in the same specific manner as that of the stomach. Pawlow attributes these secretions in the digestive tract during sham feeding to a psychic factor—the so-called "appetite gastric juice," but Borisoff is convinced that they are the result of reflex action from the influence of the different elements of the food on the nerves of taste. His studies were conducted on dogs, and he gives the particulars of the tests with diagrams.

173. **Adrenalin as a Remedy for Internal Hemorrhage.**—Simonovitch found that dogs and rabbits tolerated large doses of adrenalin by the mouth without general effects. Human subjects also took five times the usually accepted largest therapeutic dose without showing any general effects, not even a single subjective symptom. No general effects were observed in the animals even after the intestines had been intentionally injured. Absorption of adrenalin into the blood through the mucous membrane of the alimentary canal must, therefore, be a very slow process. The inference is obvious that it can be ingested with impunity, and hence may be found extremely valuable in case of internal hemorrhage. Its local action as an internal hemostatic will be enhanced by giving it in small, repeated doses rather than single large ones. The animals in his tests took .015 to .03 gm. and the human subjects five times the usual dose of .01 gm. He made comparative tests with potassium iodid which passed into the urine in half an hour, while the adrenalin could not be detected in the blood. The general effects were realized only when the adrenalin was injected directly into a vein. This is allowable to revive the heart only in desperate cases as a last resort, owing to the danger of paralysis of the heart, which occurred in a number of his experiments on animals.

174. **Syphilitic Icterus.**—After excluding other causes for the obstinate icterus, notwithstanding the denial of syphilis by the patient, Geisler instituted antisyphilitic treatment. The complete recovery confirmed his diagnosis.

177. **Movable Kidney.**—Janovski agrees with the Russian writers, Volkoff and Delitzin, that the varying size and shape of the fossa in which the kidney rests is the cause of its movability in some persons. He does not advocate operating except where palliative measures have failed and the symptoms are referable to the kidney alone. When there is a nervous foundation for the disturbances he advises as an adjuvant to the usual treatment for neurasthenia, the wearing of a special pad, fastened to the corset, to push the kidney into place.

178. **Syphilitic Polyarthritis.**—Willanen's patient exhibited what seemed to be multiple articular rheumatism except for the absence of fever, the gradual onset, and the resistance to the salicylates. Mercury and potassium iodid combined soon induced a complete cure.

179. **Relations Between Taste and the Needs of the Organism.**—Borisoff continuing his research mentioned above, has confirmed anew the close relation between the appetite and the needs of the organism at various times. The food must appeal to the palate in order to stimulate by reflex action the digestive secretions farther along the digestive tract, that they may be ready to act effectively on the food as it reaches them. The cravings of pregnancy and children's love of candy are evidences of this adaptation of the appetite to the needs of the body. The heat radiation of children and their active exercise call for an exceptional supply of carbohydrates. The benefits of salt to cattle and the larger amount craved by man on a vegetable diet are further testimony to this law. He experimented on fowls and found that the roosters did not eat lime, and that the hens ingested a certain average amount of lime, some days more, others, less, but keeping the weekly average at a constant figure.

180. **Value of Palliative Hypnosis in Incurable Organic Disease.**—Pyevnitzki reports from Bechterew's clinic 7 cases of various organic nervous affections immeasurably benefited, from the subjective standpoint, by therapeutic hypnosis. One was a case of syringomyelitis, others of meningomyelitis, etc. He adds that hypnotic suggestion in these cases not only relieves the patient but saves him from resorting to charlatans.

181. **Suture of Bladder After High Lithotomy.**—Rozanoff describes 24 cases, in which he performed suprapubic lithotomy. Except in presence of contraindications such as severe cystitis, laceration or uncontrollable hemorrhage from the bladder, he prefers to suture the wall, using absorbable catgut or reindeer tendon for the lower tier, and not passing the needle through the mucosa. His results have confirmed his opinion of the value of immediate suture of the bladder, but he ascribes great importance to his practice of thorough evacuation of the intestines as a preliminary measure, chloroform anesthesia, and injection of boric acid into the bladder afterward. In all his patients thus treated the wound healed without mishap, except in one instance.

183. **Actinomycosis of Lachrymal Dust.**—Auerbach reviews the literature on the subject of fungous affections of the lachrymal duct and relates the particulars of a case personally observed.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

AN ATLAS OF HUMAN ANATOMY, for Students and Physicians. By Carl Toldt, M.D., Professor in Anatomy in the University of Vienna. Assisted by Professor Alois Dalla Rosa, M.D. Translated from the Third German Edition and Adapted to English and American and International Terminology. By M. Eden Paul, M.D., Brux., M.R.C.S., L.R.C.P. Second Section C. Arthrology. (Figures 378 to 489 and Index.) Cloth. Price, $1.75. New York: Rebman Company. 1903.

TRYPANOSOMA AND TRYPANOSOMIASIS, with Special Reference to Surra in the Philippine Islands. By W. E. Musgrave, M.D., Acting Director Biological Laboratory, and Moses T. Clegg, Assistant Bacteriologist, Biological Laboratory. From the Department of the Interior. Bureau of Government Laboratories. Paper. Pp. 248. Manila: Bureau of Public Printing. 1903.

PORTFOLIO OF DERMOCHROMES. By Professor Jacobi, of Freiburg im Breisgau. English Adaptation of Text by J. J. Pringle, M.B., F.R.C.P., Physician to the Department for Diseases of the Skin at the Middlesex Hospital, London. Volume II. Leather and Cloth. Pp. 181. Price per set, $15.00. New York: Rebman Company. 1903.

TRANSACTIONS OF THE NATIONAL ASSOCIATION OF UNITED STATES PENSION EXAMINING SURGEONS. Second Annual Meeting, Washington, D. C., May 13 and 14, 1903. Including an Account of First Meeting at Saratoga Springs, June 9, 1902. Vol. I. Cloth. Pp. 215. Rochester, N. Y.: Published by the Association. 1903.

TRANSACTIONS OF THE AMERICAN MICROSCOPICAL SOCIETY. Edited by the Secretaries. Twenty-fifth Annual Meeting held in Pittsburg, Pa., June 27 and 28, 1902. Vol. XXIV. Paper. Pp. 197. Lancaster, Pa.: New Era Printing Co. 1903.

BACTERIA, YEASTS AND MOLDS IN THE HOME. By H. W. Conn, Ph.D., Professor of Biology in Wesleyan University, Middletown, Conn. Cloth. Pp. 293. Price, $1.00. Boston and London: Ginn & Co. 1903.

TRANSACTIONS OF THE MEDICAL SOCIETY OF NEW JERSEY. 1903. Cloth. Pp. 439. Newark, N. J.: L. F. Hardham Printing Co. 1903.